



**A STUDY OF RELATIONSHIP BETWEEN PERSONAL
VALUES, NEEDS, JOB ADJUSTMENT, TEMPERAMENT
AND ACADEMIC CAREER OF SECONDARY SCHOOL
TEACHERS WITH THEIR TEACHING BEHAVIOUR**

T H E S I S
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CERTIFICATE

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11.10.1984


(M.F. VERMA) *superior*
Reader (Rel)

**TO THE MEMORY OF
MY FATHER
ANWAR ALI**

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CONTENTS

Chapter 1	INTRODUCTION	1
	Title of the Study	12
	Purpose of the Study	12
	Hypotheses ...	13
	Significance ...	16
	Definition of the terms	21
	Teacher behaviour	22
	Values ...	25
	Temperament ...	29
	Needs ...	32
	Job adjustment	37
	Academic career	38
	References ...	40
Chapter 2	REVIEW OF RELATED LITERATURE	
	Description of teacher's class- room behaviour ...	48
	Teacher's classroom behaviour and job satisfactioy/adjustment.	52
	Teacher's classroom behaviour and their Needs ...	63
	Teachers' classroom behaviour and their values ...	69
	Teacher's classroom behaviour and their temperatment	72
	Teacher's classroom behaviour and their academic career	75
	References ...	78

Chapter 3	METHOD OF THE STUDY	83
	Sample of the study	85
	Sample of the main study	87
	Sample used for the development of job adjustment inventory	88
	Tool used ...	94
	Description of tools	95
	Flanders Interaction Analysis category system.	95
	Thurstone temperament Schedule.	103
	Value Test ...	108
	Tripathi Personal Preference Schedule (TPPS).	111
	Occupational Adjustment Inventory	113
	reacner's Academic Record questionnaire. ...	115
	Data collection	116
	Statistical Techniques Employed	118
	References ...	122
 Chapter 4	 DEVELOPMENT OF TOOLS	 123
	A. Development of Occupational Adjustment Inventory.	123
	Selection of sources or factors of job adjustment/satisfaction.	123
	Initial draft of the scale.	128
	Technique used in construction of the scale.	129
	Scoring ...	130
	Item analysis	131
	Reliability	133
	Validity ...	135
	Time limit	138
	Directions	138

	B. Modification of Flanders Interaction Analysis Category System. ...	139
	Description of F.I.A.C.	140
	Limitations of the System.	142
	Subscribing the main categories of F.I.A.C.	146
	References	150
 Chapter 5	 PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA	 152
	<u>Sec. A:</u>	
	General and special features of teacher behaviour	155
	Special features of teacher behaviour. ...	162
	Identification and comparison of Indirect, Moderately direct and Direct teachers.	168
	(a) Identification of teachers.	168
	(b) Comparison of Indirect, Moderately direct and direct teachers on general and special features of classroom behaviour.	171
	Group Differences on the Basis of Ratios. ...	198
	<u>Section B:</u>	
	Values and Teacher Behaviour.	207
	<u>Section C:</u>	
	Needs and Teacher Behaviour.	216
	<u>Section D:</u>	
	Temperament and Teacher Behaviour.	234
	<u>Section E:</u>	
	Academic Career and Teacher Behaviour. ...	243

Chapter 6	SUMMARY OF FINDINGS AND CONCLUSIONS	252
	Title of the problem.	253
	Purpose of the study.	253
	Sample of the study	255
	Tools used. ...	256
	Identification of Direct and Indirect Teachers.	257
	Hypotheses ...	357
	Major findings ...	260
	Comparison of Indirect, Moderately Direct and Direct teachers on General and special features of classroom behaviour.	263
	Values and Teacher Behaviour.	271
	Needs and Teacher Behaviour.	273
	Temperament and Teacher Behaviour.	276
	Academic Career and Teacher Behaviour	278
	Job Adjustment and Teacher Behaviour	279
	Further areas of research.	280
	Limitations of present study.	282
 APPENDICES	 1. Thurston Temperament schedule.	
	2. Value Test.	
	3. Tripathi Personal Preference Schedule.	
	4. Occupational Adjustment Inventory.	
	5 & 6. Formulas for the calculation of t values.	
	7. Interaction variables.	
	8. Value scores.	
	9. Need scores.	
	10. Temperament scores	
	11. Academic career scores.	
	12. Job adjustment scores.	

LIST OF FIGURES

G1	Percentage of teacher behaviour in categories.	156
G2	Summary of verbal behaviour of teachers.	157
G3	Percentage of various ratios of verbal behaviour of teachers.	165
G4	Mean scores of Indirect, Moderately direct and direct teachers on behaviour categories.	183
G5	Mean scores of Indirect, Moderately direct and direct teachers on behaviour ratios.	184
G6	Mean scores of Indirect, moderately direct and direct teachers on behaviour sigments.	185
G7	Mean scores of Indirect, Moderately direct and direct teachers on value variable.	210
G8	Mean scores of Indirect, Moderately direct and direct teachers on need variable.	221
G9	Mean scores of Indirect, moderately direct and direct teachers on temperament variable.	237
G10	Mean scores of Indirect, moderately direct and direct teachers on academic career.	245
G11	Mean scores of Indirect, moderately direct and direct teachers on job adjustment.	249

Chapter 1

INTRODUCTION

A planned society depends for its survival and progress on qualitative education. That is why the need for constant endeavour to improve the quality of education has acquired such a great urgency in our country. There is a growing consciousness in every circle, public or professional, that the good of an educational programme depends to a large extent on the quality of the teaching done in the classroom. Since teacher enjoys a pivotal position in teaching learning process, reconstruction of education would be inconceivable without taking into cognizance the teacher factor.

Teaching makes many professional demands on the teacher. Central to these demands is a variety of activities he performs for imparting instruction to the pupils under his charge, and making discussions that affect the growth and welfare of the pupils. Educationists are convinced that teaching, when properly performed, is a professional activity. It requires the use by the teacher of specialized knowledge and skill acquired by other people. If one holds this view, those, who perform the act of teaching, must become capable of:

- (1) Using a body of specialized knowledge and variety of activities for imparting instruction.
- (2) Making rational professional discussions , and
- (3) Making these discussions on behalf of others.

Actual teaching is so varied, so complex, so fluid as almost to defy any description. There are many ways in which one may view teaching. The primary purpose of teaching is to facilitate students' learning. The results of teaching are ultimately manifest in the way people behave. The learned man, the skilled technician, the considerate mother are learned, skilled and considerate because they behave in certain ways. Hence, one of the purposes of teaching is to help students behave in new ways that are in keeping with their own unique characteristics and their evolving values and ideals. Another purpose is that of helping students understand how their values and ideals are related to the values and ideals of society. Still another purpose of teaching is that of helping students gain the knowledge, skill and feeling state that they will need to function effectively. Though facilitating learning results in changed behaviour, teacher should recognize, and at times, accept students' behaviour as it is and then strengthen such prior learning. Thus teacher often helps students strengthen and integrate his prior learning and build upon it to develop new behaviour. Nevertheless the primary purpose of teaching is to change the behaviour of students and help them understand

the potential and implications of their behaviour. The teacher can be more effective in carrying out these purposes when he consciously accepts his responsibility as an agent of change. He should focus his service 'to' the student and not 'on' the student.

Nothing is, therefore, more important than securing a sufficient supply of high quality teachers to the teaching profession. That alone can guarantee the creation of a new generation of young men and women, who will not only discharge the social and constitutional obligations enjoined upon them and attain excellence in all individual and collective endeavour but revamp the society with a forward out look, scientific temper, and pulsating desire to achieve optimum growth.

Once Whitehead wrote, "Every thing depends on teacher." The validity of this statement holds good even today. Being the architect of nation's destiny he is expected to be highly effective and competent. He is under constant vigil by the society which demands, more than ever before, a higher level of performance by him.

This fact brings us, once more, face to face with the question of teacher effectiveness. This question has produced probably much more research than any other in the field of education. As Gage (1960) has noted, 'not only is the literature on teacher competence overwhelming but even the bibliographies on the subject are becoming unmanageable. Notwithstanding

this voluminous research, the problem still remains unresolved. 'We do not know how to define, prepare for, or measure teacher competence' (Bruce J. Biddle, 1964). The bulk of studies on teacher effectiveness to date have produced negligible results. Attempts to predict teacher competence on the basis of presage variables such as teacher's formative experiences, academic career, preparation and properties failed to make a breakthrough as none of them was found to have a substantial correlation with the criterion variable. Likewise, studies involving product variables such as pupil learning made the confusion still more confounded because of the difficulty in isolating single teacher effects from the effects of other teachers and a host of other forces such as home. Consequently, focus of research on teacher effectiveness has now shifted to process variables. The period of the past two decades has witnessed a great spurt in research on classroom interaction in order to develop deeper insight into the dynamics of teacher behaviour and evolve a scientific theory of instruction. It is now realized more than ever before that before we proceed to control teacher behaviour in order to produce the desired results of instructions, we must strive to analyse and describe it and gain more knowledge of its antecedents and consequences. Research in this area has not yet reached the stage where it may be possible to predict what type of teacher behaviour would be effective for all age groups, all situations, all

subjects and all types of pupils. It still grapples with the problem of defining and analysing teaching acts and understanding the nature of the demands imposed by interaction between situation and personal factors of which teacher behaviour is a product.

Some of the notable researchers such as Flanders, Smith, Gage, Muex and Biddle, etc., have isolated those teacher activities from the gamut of his classroom work which can be given the operational definition of teacher behaviour.

Teacher performs a variety of acts in a variety of contexts. He takes part in the activities of school as a whole. He may be involved in school community relations while, of course, he is necessarily involved in carrying on the work of classroom.

Performance of all these activities constitute the generic category we call "teaching behaviour". Teaching behaviour consists of those acts that the teacher typically performs in the classroom in order to induce learning. Thus the teaching behaviour -- as the term is used here -- is to be distinguished from such classroom operations as giving examinations, grading papers and keeping order. While these behaviours influence learning, they do not count as teaching behaviours because they are not designed with the intention of learning as their explicit end.

Flanders defines teacher behaviour as "those acts of teacher

which occur in the context of classroom interaction."

Teaching behaviour, by its nature, exists in the context of social interaction. The act of teaching leads to reciprocal contacts between teacher and pupil. These reciprocal contacts can be perceived as a series of events which occur one after another. Each event occupies a small segment of time and a chain of events can be spaced along a time dimension. It is clear that each event influences what is to follow and is, in turn, influenced by what preceded.

Teaching behaviour is highly interpersonal. In any such situation the personalities of the individuals involved influence their mutual perception and by the same token their behaviour.

The concept of teacher's classroom behaviour involves measureable differences among teachers with regard to teaching acts such as acceptance of pupil feelings, acceptance and elaboration of pupil ideas, encouragement and praise of pupils, lecturing, questioning, giving directions, rejecting pupil responses, self referencing, etc. On the basis of these recognisable differences, it is possible to classify teacher behaviour into dicotomous categories such as:

dominative	-	integrative
autocratic	-	democratic
preclusive	-	inclusive
direct	-	indirect

Labelling teachers as direct or indirect, however, does not

mean that flexibility and variation in the behaviour of the teacher is ruled out. Whatever knowledge of classroom interaction has so far been accumulated through researches done to date in this area goes to show that teachers are neither exclusively direct nor indirect in so far as solitary instances of behaviour are concerned; but they are so designated on the basis of consistency of pattern in which their behaviour falls. To quote Anderson, one of the pioneers of research in this area, "No behaviour is entirely integrative; none short of extermination is dominative, but in the interplay of differences specific acts or contacts can be reliably said to be expressions of domination or of integrative behaviour".

Conceptually, it seems reasonable to posit psychologically qualitative difference in indirect and direct patterns of teacher's classroom behaviour.

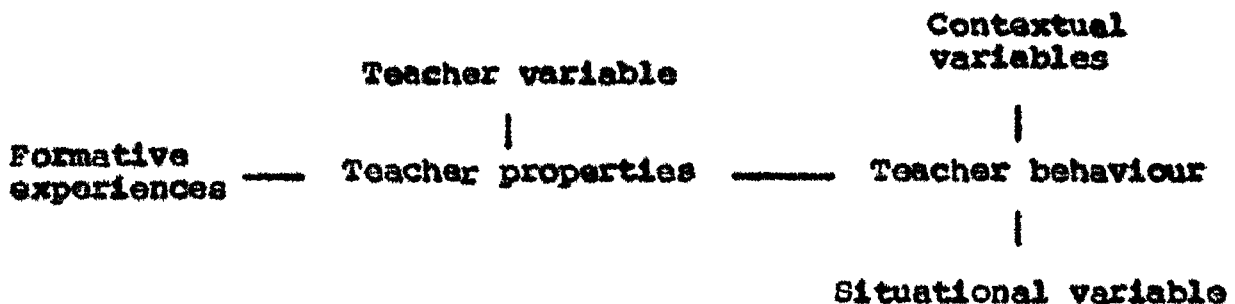
So far teacher effectiveness studies, relating to teacher behaviour, were chiefly based on the themes such as directness and indirectness of teachers of different categories, conditions for learning certain material by students, use of structuring comments to preview what is to happen, use of levels of questioning to aid cognition, task orientation of the teacher, clarity of presentation and so forth. Sporadic attempts were also made to identify effective and ineffective teacher behaviours, but lack of unanimity about what kind of teacher effects should be acceptable as criterion of effectiveness

presented a hurdle in arriving at conclusive evidence in this regard, and reviewers of research on this subject were compelled to say that there is no such teacher behaviour, which can be singled out, that constantly promotes academic growth (Meddley, 1973; Rosenshine and Furst, 1973 and Dunkin and Biddle, 1974). Rather a number of characteristics appear to promote effective teaching.

The investigator believes, as stated earlier, and reiterates further, that before making the big leap in the yet vaguely defined and disagreement-afflicted variable that teacher effect is, research activity should still concentrate on teacher behaviour about which a great deal more remains yet to be known. The knowledge accumulated up to date in the area of teacher behaviour does not go beyond data about time spent by the teacher and student in various behaviour categories during interaction and relative percentages of various types of behaviours produced by the teacher and the pupils. This is, indeed, useful for making comparisons between teacher acts of various categories and also between teachers teaching different subjects. But, it cannot provide answer to the question as to why a teacher adopts a specific pattern of classroom behaviour in preference to the other.

The next logical and much needed step is to investigate the factors that govern behavioural variance in teaching acts among teachers. Teaching does not occur in a vacuum. It takes

place in a certain context, under certain situations and is performed by a person with a unique set of characteristics. Classroom behaviour of the teacher is shaped by all these forces in different degrees. The following figure presents a sample model of the factors that underlie teacher behaviour:



Without belittling the importance of other factors, it may be argued that teacher behaviour is mostly the outgrowth of his personality factors (teacher properties) and academic career (a part of his formative experiences). Even a casual visitor to the classroom would instantly notice that different teachers, teaching the same set of pupils, under similar conditions, exhibit different behaviour and achieve success in differing degrees. This leads one to guess that the factors that cause this variation mostly relate to the teacher's own characteristics. Ryan (1960) in his monumental study asserts that "teacher behaviour is a function of personal characteristics of individual teacher. Teacher behaviour is determined in part by teacher's personal and social characteristics, e.g., in the

intellectual, emotional, temperamental, attitudinal and interest domains) which have their source in both the genetic (unlearned) and experimental (learned) backgrounds of the individual. A knowledge of such characteristics contributes to prediction, within limits, of teacher behaviour". Research efforts must therefore centre on exploration of individual differences among teachers, in temperament, values, needs, academic career, etc., as they relate to variance in teachers classroom behaviour. The study of such relationships is likely to give birth to a theory on the basis of which we can explain and predict social phenomena.

The central task of any branch of science is that of discovering and measuring relationship through comparisons of set of data. As new relationships are found, understanding of world is increased. When existing relationship permits prediction of events, control over the environment is extended.

The problem of relationship between teacher personality and teacher behaviour has in recent years interested a number of researchers. Ryan (1960), Cooper and Bemis (1967), Sober (1967), Morgan and Worrallcheff (1969) and Qureshi (1972) found that several personality variables are related to teacher behaviour though in varying degrees. Appaji Gowda and Shashikala (1974) found that direct and indirect teachers differ significantly on intrasection and aggression. Direct teachers scored high on both personality needs. Bengt (1967), however, found

that needs of teachers, as measured by EPPS , were not related to teacher behaviour.

Attempts have also been made to study the significance of personality and temperamental traits for success and satisfaction in school and work and it has been indicated by surveys of employment records, that the personality problems are the most common cause of discharge from employment (Brewer, 1930; Hunter, 1936). Observation leads to the suggestion that some people, considering social work as career, are motivated by an unconscious desire to solve their own problems rather than to help solve those of others. Personality determines the kind of adjustment problems which the worker will encounter and the role he will play in the occupation he enters and his mode of behaviour. If he is outgoing and his associates are withdrawn, he will have much difficulty in getting along with them. If he is dominant, he may like to be the leader rather than the follower in the group.

Research also suggests that satisfaction or dissatisfaction with work depends upon the ease with which the worker makes the modification in his behaviour to relate it to the requirements of the job or to alter role requirements to suit his personality.

Research in the area of teacher behaviour and its correlates has so far been sporadic and the results of most of the studies are equivocal. Moreover, only a small part of this area has

yet been explored. In view of the pressing need of improving the quality of teaching in schools research efforts in this area must be intensified. The investigator himself being a teacher is more than convinced that potentially rich in scope the area of teacher behaviour deserves to be accorded high priority by educational researchers. The problem of the present study was selected by the investigator with this firm belief.

Title of the Problem

The specific problem selected for investigation reads:

"A study of relationship between personal values, needs, Job Adjustment, temperament and academic career of secondary school teachers with their teaching behaviour".

Purpose of the Study

The purpose of the study, in general, was to investigate the classroom behaviour patterns of secondary school teachers and the degree to which teachers' behaviour patterns and their specific dimensions were related to certain teacher characteristics. The investigation was designed with the following specific objectives:

- (1) To modify Flander's interaction analysis category system, (a) by splitting some categories into their respective components and (b) to develop new ratio for directness-indirectness.

- (2) To identify patterns of classroom behaviour of secondary school teachers, teaching different subject areas, observed during the study.
- (3) To identify and compare indirect, moderately direct and direct teachers on the basis of modified index of directness-indirectness.
- (4) To determine the relationship between classroom behaviour of teachers and their academic career.
- (5) To determine the relationship between classroom behaviour of teachers and their temperament.
- (6) To determine the relationship between teachers' classroom behaviour and their personal values.
- (7) To determine the relationship of job adjustment of teachers and their classroom behaviour.
- (8) To determine the relationship between teachers' classroom behaviour and their needs.

Hypotheses

In order to formulate the predictions regarding the relationship of independent variables with the dependent variable, the investigator mainly relied on findings of the previous researches in this area and the theory that has been evolved regarding teacher behaviour and its correlates. The review of related research literature (reported in the next chapter) and the theoretical frame work developed in earlier section in this chapter provided the necessary research hypotheses which were

converted into null form so that they could be tested by appropriate statistical techniques. The same are given below:

- (1) There exists no significant relationship between overall index of indirectness-directness and motivational behaviour of teachers as found through difference in mean scores in motivational categories of indirect, moderately direct and direct teachers.
- (2) There exists no significant relationship between overall index of indirectness-directness and questioning behaviour of teachers as found through difference in mean scores in questioning categories of indirect, moderately direct and direct teachers.
- (3) There exists no significant relationship between overall index of indirectness-directness and lecturing behaviour of teachers as found through difference in mean scores in lecturing category of indirect, moderately direct and direct teacher.
- (4) There exists no significant relationship between overall index of indirectness-directness and rejectant behaviour of teachers as found through difference in mean scores in rejectant categories of indirect, moderately direct and direct teachers.
- (5) There exists no significant relationship between overall index of indirectness-directness and controlling behaviour of teachers as found through difference in mean scores in controlling categories of indirect, moderately direct and direct teachers.
- (6) There exists no significant relationship between overall index of indirectness-directness and pupils

participating behaviour in classroom discussions as found through difference in mean scores in pupils' participating categories, in the classes of indirect, moderately direct and direct teachers.

- (7) There exists no significant relationship between overall index of indirectness-directness and silence in the classroom as found through difference in mean scores in silence categories, in the classrooms of indirect, moderately direct and direct teachers.
- (8) There exists no significant relationship between overall index of indirectness-directness and personal values of teachers as found through difference in mean scores of indirect, moderately direct and direct teachers.
- (9) There exists no significant relationship between specific dimensions of teacher behaviour and personal values of teachers.
- (10) There exists no significant relationship between overall index of indirectness-directness and needs of teachers as found through difference in mean scores of needs of indirect, moderately direct and direct teachers.
- (11) There exists no significant relationship between specific dimensions of teacher-behaviour and needs of teachers.
- (12) There exists no significant relationship between overall index of indirectness-directness and temperament of teacher as found through difference in mean scores of temperament of indirect, moderately direct and direct teachers.

- (13) There exists no significant relationship between specific dimensions of teacher behaviour and temperament of teachers.
- (14) There exists no significant relationship between over-all index of indirectness-directness and academic career of teachers as found through difference in mean scores of academic career of indirect, moderately direct and direct teachers.
- (15) There exists no significant relationship between specific dimensions of teacher-behaviour and academic career of teachers.
- (16) There exists no significant relationship between over-all index of indirectness-directness and job adjustment of teachers as found through difference in mean scores of job adjustment of indirect, moderately direct and direct teachers.
- (17) There exists no significant relationship between specific dimensions of teacher behaviour and job adjustment of teachers.

Significance

Teacher effectiveness has been the most recurring subject of researches in education during the past many years. Teachers' training programmes were modified in a number of ways so as to improve the quality of teachers. Revised programmes were based on structural and organisational changes which involved modifications in the content or curriculum and approaches and strategies of teaching etc. But no serious attempt was given to

the area of teaching process. As a result of this drawback, teacher's classroom behaviour derived no benefit from the research in teacher effectiveness and was not affected by teacher training programmes. It remained the same. This investigation is an attempt to study teaching process in live situation in the classroom and analyse it in terms of different categories of teaching acts. It would, on the one hand, highlight the hiatus that exists at present between what is taught in lecture theatres of training colleges and what is actually practised in the classroom, thus showing the irrelevance of much what passes under teachers' training and consequently the need of reform. A still more important purpose intended to be served by this study relates to the development of the theory of instruction. Needless to say that theories of learning and development, on which psychology is mainly based, are descriptive rather than prescriptive. They tell us what happened after the fact, e.g., that most children of six do not possess the notion of reversibility. A theory of instruction on the other hand might attempt to set forth the best means of leading the child towards the notion of reversibility. The theory of instruction, in short, is concerned with what one wishes to teach can best be learnt. The theory of instruction is prescriptive in the sense that it sets forth rules concerning the most effective ways of achieving knowledge or skill. By the same token it provides

a yard-stick for criticising or evaluating any particular way of teaching or learning. Since the present study analyses teaching acts and relates them to teacher properties, it is presumed to clear the way for evolution of the theory of instruction. At the same time it provides guide lines to the teachers regarding the way as to how they can be most effective in the classroom.

This study assumes added importance in view of having been more appropriately designed. Most studies in the past were designed in classic way which requires that one or more classes be taught by an 'experimental' method and one or more by control method. Then the gains of pupils in each class measured by an appropriate test on the dependent variable are compared. The classic design does not involve any observation of teaching in either class to find out whether and to what degree the method supposed to be applied is actually applied. There is no way of eliminating the possibility that the failure to find a difference between methods may have been due to the fact that both the classes were taught by the same method and not by different methods as was planned in experiment. The desired degree to which the method is applied can only be studied by directly observing the teacher behaviour in classroom, which is employed in the present investigation.

In many competence studies data about teaching skills and

social emotional climate of classroom were often gathered through eliciting the opinions of experts, supervisors and principals. The weakness of such measures is that they do not yield reliable data and hence they cannot be made the basis of any action nor can they be relied upon in forecasting competence. This study is free from this weakness in that it is based on collection of specific observable behaviours of teachers in live classroom situation.

An important element in this study is the use of specific, clearly defined classroom behaviour of teachers as dependent variable instead of a sort of vaguely used concept, i.e., 'competence'. Moreover, the method of earlier researchers in studies of teacher behaviour has been limited to perceiving the behaviour as a dichotomous, bipolar variable such as direct and indirect. However, the present study is designed to include the intermediary category of moderately direct between indirect and direct, in an effort to take into account total distribution on behaviour continuum. This approach is also supported by M.L. Cogan who conceived conjunctive behaviour as intermediate between two extreme behaviours of inclusive and preclusive. It is hoped that educational research in this area would accept this specification and thus produce more significant results and generalizations.

More importantly, the study is expected to act as an impetus to educational practitioners in the improvement of

quality of their teaching by equipping them with a reliable tool in the form of modified FIAC which they can use to analyse their own teaching behaviours and receive necessary feedback to adjust their instructional acts to the needs of their pupils and the subject they teach for greater gains.

The significance of the study also lies in its potentiality to effect the much needed change in supervisory practices. Currently, teacher-educators seldom agree among themselves on what to look for in the teaching of pupil teachers as an indicator of competence. Their remarks noted on the lesson note-books are generally vague, non-constructive and too general to be of any guidance to the teacher trainees. With the help of the tool developed in this study they will be able not only to evaluate the performance of the teachers more objectively and realistically but provide to them specific suggestions for improvement and control of their instructional behaviour. Repeated reinforcement of desirable behaviour will strengthen it leading to much qualitative improvement in teaching.

The study has no mean value for the society that spends huge amounts of money to maintain its educational institutions with the belief that they will prepare its young ones to lead the nation towards a better future. But only good education can produce good citizens and only good teachers can guarantee good education. Therefore, teacher factor

becomes of crucial importance in education. The present study makes a modest attempt to investigate teacher behaviour that produces in the classroom such social and emotional climate as is conducive to gainful learning. Equipped with this knowledge, the teachers are expected to imbibe in themselves such patterns of behaviour as are favourable for the achievement of desired outcomes. Again, the study is designed to examine some of the important personality correlates of a democratic and integrative teacher. It is needless to say that these qualities of teachers, in the last analysis, pass on to the students because teaching learning process also involves an interaction between personalities. Consequently, the pupils, when grown up, are able to fitting themselves in the society which is based on democratic values quite well.

Definitions of the Terms

A number of terms and concepts have been used in this study. They have occurred in different chapters time and again. It appears desirable here to define them clearly so that chances of their being understood differently by different readers may be completely eliminated. It is unfortunate that in behavioural sciences there is much confusion about the meaning and definition of terminology. Some times a term is used to convey different meanings and some times several terms are used to connote the same meaning. This is, indeed, an

unhappy situation. In order to avoid it and to enable the readers to evaluate the present work objectively, the difficult terms used in this study are defined below:

1. Teacher Behaviour

Anderson (1937, 1937a) defines teacher behaviour in terms of dominative-integrative dichotomy. According to him dominative behaviour means the behaviour which does not accept the inevitability of individual differences. Teachers possessing dominative behaviour are inflexible, rigid and deterministic. They disregard the desire or judgements of others, stifle differences, attempt to make others behaviour according to their own standards and purposes. They use force, commands, threats, shame, blame, etc.

Integrative behaviour implies the behaviour leading to commonness of purpose among differences. Such teachers are flexible, growing, looking new meanings,^{and}/greater understanding in their contacts with others. They are non coercive, understanding, open to new data and open minded. They provide stimulus to growth in others, create new and harmonious differences. Such teachers are consistent with scientific approach and the concept of growth and learning.

Anderson was of the opinion that domination and integration are psychologically different techniques of responding to students.

Similarly Lippitt perceived teacher behaviour as 'autocratic'-'democratic', John Withall as 'teacher centre'-'learner centre', and Cogan as 'preclusive'-'inclusive'. According to Cogan preclusive behaviour is a resultant of dominative, aggressive and rejectant behaviours. Such teachers are antisocial, surly, spiteful-dour, hostile, impatient, self-centered, self assertive and aloof.

On the other hand inclusive behaviour conserves integrative, affiliative, nurturant behaviours. Such teachers are friendly, cheerful, trustful, patient and self-effacing, self submissive and responsive. He also conceived of behaviour comprising certain interpersonality 'neutral' behaviour of teachers which he named as 'conjunctive' behaviour.

In the opinion of Milton Muex and B. Othanel Smith, teaching behaviour consists of those acts that the teacher typically performs in the classroom in order to induce learning.

According to Bruce J. Biddle teacher behaviour is a product of interaction between situation demands and personal factors (such as educational philosophy, needs, beliefs, values and motivations).

In short if one examines the literature of classroom interaction produced upto date, he would come across numerous shades of opinions regarding what teacher behaviour means, though most of them appear to be covering one common ground,

namely, the acts of the teacher performed in connection with imparting instruction.

Allport and Odbert (1936) point out that there are more than 1,800 adjectives available in English language to describe behaviour directly, and a large proportion of these may be applied to the behaviour of teachers.

For the purpose of this study, definition given by Flanders seems to be most appropriate, because he not only defined teacher behaviour but also evolved a realistic and practical instrument to analyse classroom interaction following several years of empirical research which is followed in this study.

Flanders defined teacher behaviour as "those acts of teacher which occur in the context of classroom interaction".

According to him, in classroom, teacher-pupil relationships are essentially superior-subordinate in quality. The responsibility of classroom activities is the teacher's and both the teacher and the pupils expect the teacher to take charge, to initiate and control the learning activities. The freedom to direct or not to direct the activities of others is initially given only to the teacher. Whatever freedom pupils have in this respect results from the actions of the teacher. No pupil can consistently ignore the authority of the teacher and it is most difficult and sometimes impossible for a pupil to escape from the teacher's control. Hence, conditions of

dependence or independence are created by the teacher's choice of influence. So, he conceived direct influence and indirect influence which, under appropriate circumstances, determine the degree of dependence. These two kinds of influences/^{which} he defined in terms of verbal behaviour are as follows:

Direct influence consists of stating the teacher's own opinions or ideas, directing the pupil's action, criticising his behaviour, or justifying the teacher's authority or use of that authority.

Indirect influence consists of soliciting the opinions or ideas of pupils, applying or enlarging on the opinions and ideas of the pupils, praising or encouraging the participation of pupils, or clarifying and accepting the feelings of pupils.

2. Values

Values occur as one of the important independent variables in this study. Hence it is necessary that the sense in which values have been used is made fully clear. It is needless to say that like most other psychological constructs, values also suffer from a vagueness in so far as their definition is concerned.

Values are derived from life, from environment, from the self, society and culture and above all from experience and

the ideals. Psychology and social sciences dealing with values define them as "mere preferences and aversions, as desirable goals, emotions and interests".

According to the definition of Ralph Barlow Parry, "A thing, any thing, has value or is valuable in the original or generic sense when it is the object of an interest or any interests". Value is thus defined in terms of interest and its meaning thus depends on another definition, the definition of interest which is: "An interest is a train of events determined by expectation of its outcome, or a thing is an object of interest when its being expected induces actions looking to its relation".

Values concern preferences for 'life goals' and 'ways of life' in contrast to interests which concern preferences for particular activities.

Values are master sentiments or philosophies of life which give to the individual the direction of his strivings. They are 'certain behaviours or ways of life regarded as more desirable than others'. Values select and direct behaviour.

In its most general usage in the social sciences value denotes any object of any need, attitude or desire.

In most instances in social sciences, the word is used only in those cases where an actual interactive relationship exists between needs, attitudes and desires on the one hand and objects on other.

These definitions of values are, indeed, quite helpful in conceptualisation of the term. Yet they are too general to be made the basis of measurement. More specific as well as operational definition needed to suit the purpose of this study is found in Spranger. He has explained the characteristics of man holding each of the six values conceived by him as under:

(1) The Theoretical - The dominant interest of a theoretical man is the discovery of truth. In the pursuit of this goal, he characteristically takes a 'cognitive' attitude, one that looks for identities and differences, one that divests itself of judgements regarding the beauty or utility of objects, and seeks only to observe and to reason. Since the interests of theoretical man are empirical, critical and rational, he is necessarily an intellectualist, frequently a scientist or philosopher. His chief aim in life is to order and systematise his knowledge.

(2) The Economic - The economic man is characteristically interested in what is useful. Based originally upon the satisfaction of bodily needs (self preservation), his interest in utilities develops to embrace the practical affairs of the business world -- the production, marketing and consumption of goods, the elaboration of credit, and the accumulation of tangible wealth. This type is thoroughly 'practical'.

(3) The Aesthetic - The aesthetic man sees his highest value in form and harmony. Each single experience is judged from the standpoint of grace, symmetry, or fitness. He regards life as a manifold of events where each single impression is enjoyed for its own sake. He need not be a creative artist, nor need be an effete. He is aesthetic if he finds his chief interest in the artistic episodes of life.

The aesthetic value is in a sense diametrically opposed to the theoretical, the former is concerned with diversity, and the latter with the identities of experience.

(4) The Social - The highest value of this type is love for people, whether of one or of many, whether conjugal, filial, friendly, or philanthropic. The social man prizes other persons as ends, and is therefore, himself kind, sympathetic, and unselfish. He is likely to find the theoretical, economic and aesthetic attitudes cold and inhuman.

(5) The Political - The political man is interested primarily in power. His activities are not necessarily within the narrow field of politics. Since competition and struggle play a large part in all life, many philosophers have seen power as the most fundamental of motives. There are, however, certain personalities in whom the desire for a direct expression of this motive is uppermost, who wish above all else for personal power, influence and renown.

(6) The Religious - The highest value for the religious man may be called unity: He is mystical, and seeks to comprehend the cosmos as a whole, to relate himself to its embracing totality. Spranger defines, the religious man as one "whose mental structure is permanently directed to the creation of the highest and absolutely satisfying value experience."

The above descriptive characteristics of individuals holding various values were considered most agreeable for the present study. Consequently, Allport Vernon's study of values, adapted by Dr. Ojha, based on Spranger's conception of values, was employed to identify the values of the sample.

3. Temperament

For current psychological usage, "temperament refers to the characteristic phenomena of an individual's emotional nature including his susceptibility to emotional stimulation, his customary strength and speed of response, the quality of his prevailing mood, and all peculiarities of fluctuations and intensity in mood. These phenomena being regarded as dependent upon constitutional make up, are therefore largely hereditary in origin."

Temperament being resultant of so many diverse factors, it necessarily follows that the varieties of temperament of any man cannot be adequately characterised by one or a few

adjectives. And in fact our terminology to describe this trait is most inadequate.

In the present study temperament is viewed as relatively permanent personality characteristics or traits. These aspects of personality are important in understanding a teacher's way of acting in schools and colleges.

Most tests describe an individual in terms of psychotic or neurotic tendencies. Since, for practical purposes, most of us are reasonably well adjusted, these clinical stereotypes do not provide the best method for describing personality traits. Therefore, a schedule was needed to emphasize important stable traits which describe how normal, well adjusted people differ from each other. The Thurstone Temperament schedule was selected as the most useful tool in this study. This schedule assesses those traits which are relatively permanent for each person. Seven areas of temperament are appraised in a relatively short questionnaire. The areas are explained as under:

Active (A) - A person, scoring high in this area, usually works and moves rapidly. He is restless whenever he has to be quiet. He likes to be 'on the go' and tends to hurry. He usually speaks, writes, drives and works rapidly, even when these activities do not demand speed.

Vigorous (V) - A person with a high score in this area participates in physical sports, work requiring the use of hands and the use of tools, and out door occupations.

Impulsive (I) - High scores in this category indicate a happy-go-lucky, dare devil, carefree, acting-on-the spur of the moment disposition. The person makes decisions quickly, enjoys competition, and changes easily from one task to another.

Dominant (D) - People, scoring high on this factor, think of themselves as leaders, capable of taking initiative and responsibility. They are not domineering, even though they have leadership ability. They enjoy public speaking, organizing social activities, promoting new projects, and persuading others.

Stable (S) - Persons, who have high stable scores, usually are cheerful and have an even disposition. They can relax in a noisy room and they remain calm in crisis. They claim that they can disregard distraction while studying. They are not irritated if interrupted when concentrating, and they do not fret about daily chores. They are not annoyed by leaving a task unfinished or by having to finish it by a dead line.

Sociable (S) - Persons with high scores in this area enjoy the company of others, make friends easily, and are

sympathetic, cooperative and agreeable in their relations with people.

Reflective (R) - High scores in this area indicate that the person likes meditative and reflective thinking and enjoys dealing with theoretical rather than practical problems. Self examination is characteristic of reflective persons. These people are usually quiet, work alone, and enjoy work that requires accuracy and fine detail.

4. Needs

In psychology the term need denotes whatever is required for the health and well being of a person. A wide use of the term is sometimes found in personality theory where it refers to any thing a person wants with sufficient consistency over time for this to be treated as a feature of his personality.

In the present study, Murray's interpretation of needs has been accepted as being most appropriate and also relevant to the purpose of this investigation. An added advantage of following Murray's concept of needs is that they have been operationally defined which makes their measurement an easy task. Each of the needs included in the present study are defined below.

(1) Achievement (ach) - To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be

recognized authority, to accomplish some thing of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a novel or play.

(2) Deference (def) - To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

(3) Order (ord) - To have written work neat and organised, to make plans before starting on a difficult task, to have things organised, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organised and a definite time for eating, to have things arranged so that they run smoothly without change.

(4) Exhibition (esh) - To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and comment upon one's appearance, to say things just to see what effect it will have on others, to talk about personal achievements, to be centre of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

(5) Autonomy (aut) - To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in position of authority, to avoid responsibilities and obligations.

(6) Affiliation (aff) - To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

(7) Intraseption (int) - To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one self in another's place, to judge people by why they do things rather than by what they do, to analyze the behaviour of others, to analyze the motives of others, to predict how others will act.

(8) Succourance (suc) - To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favour cheerfully, to be

helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over when hurt.

(9) Dominance (dam) - To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as leader, to be appointed or elected chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

(10) Abasement (aba) - To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than having one's way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel inferior to others in most respects.

(11) Nurturance (nur) - To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favours for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection towards others, to have others confide in one about personal problems.

(12) Change (chg) - To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

(13) Endurance (end) - To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick to a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.

(14) Heterosexuality (het) - To go out with members of opposite sex, to engage in social activities with the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussion about sex, to read books and plays involving sex, to listen to or to tell jokes involving sex.

(15) Aggression (agg) - To attack contrary points of view, to tell others what one thinks about them, to criticise others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to

become angry, to blame others when things go wrong, to read newspaper accounts of violence.

5. Job adjustment

According to Robert (1966), job adjustment comprises those outward or inner manifestations which give an individual a sense of enjoyment or accomplishment in the performance of his work. Job satisfaction may come from the speed with which it is accomplished or from other features relating to job and its performance.

Edvin O. McGaskill and Jerry Neely in a research study about "teacher's perception of job adjustment or satisfaction" define job satisfaction as the "feelings a person has about his job repeated through his effective responses to the facts of the job situation. These feelings are associated with the perceived differences between what is expected as a fair reasonable return and what is experienced in the given situation".

According to Blum and Naylor (1968), "Job satisfaction is the result of various attitudes employee holds towards his job, related factors and towards life in general". And according to Ginsberg (1951), "Job satisfaction is concerned with the attitudes towards various work situations, general values of life and beliefs determined entirely by individual's perception of his job".

Numerous other definitions of job satisfaction/adjustment such as those of Hoppock (1935), Super Donald (1939), Maslow (1943), Weitz (1952), Seigal (1962), Herrel (1964), Vroom (1964), and Pestongee (1973), etc., are also available in vocational literature. But in the present study the definition given by Blum and Naylor has been accepted and the measure of job adjustment are developed on the basis of this definition. The measure contains statements on various aspects of the job of teachers. The responses to these statements of the sampled teachers indicate their attitudes and from which their job satisfaction/adjustment is indexed.

6. Academic Career

Academic career is one of the independent variables whose effect on teacher-behaviour is sought to be examined in the present study. This term is used to mean different things by different researchers. In general, it refers to the career maintained by an individual during the period of his receiving education in school and college.

However, a close examination of the previous researches reveals that most researches equate academic career with the years spent by an individual in school and college and base their scheme of scoring of academic career as a variable on this criterion.

David G. Ryan takes a different line in his most famous study 'Teacher Characteristics' and determines academic career of teachers included in his study on the basis of level of achievement held by an individual during his period of total education disregarding the amount of education one had received. Following this scheme he took self ratings from his sample to rate themselves whether they had been high achievers, average achievers or low achievers during their school and college career. In this study, however, this line has not been adopted to define academic career because it is based on a crude measure. Observation shows that the levels of achievement of an individual during the entire span^{of}/his study do not remain stable. An individual showing poor performance in high school may show high performance at college level and vice-versa, because some are early bloomers and some late.

In defining academic career for the study this factor has been taken into account in addition to the amount of education received. Thus academic career in this study includes two factors namely qualifications and divisions. The scale developed to measure academic career gives different weightages to different levels of qualifications and different divisions for determining academic career scores of the teachers included in this study.

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Chapter 2

REVIEW OF RELATED STUDIES

Nothing is probably, as crucial and decisively important for devising a sound conceptual base as also a flawless procedural design for a research study as is the pre-review of related literature. The present researcher's own experience tells that as one delves deep into the literature related to the problem of his interest the cobwebs of conceptual vagueness and haziness of thoughts and ideas gradually vanish giving way to the emergence of increased cognitive clarity about the problem. The ideas and thoughts cohere forming a sound theoretical framework of the study; research hypotheses that demand testing suggest themselves and weaknesses of design that lowered reliability of results of some earlier investigations and that should be safeguarded in the present research come into focus. In short, the review of literature helps the investigator in updating his knowledge about all that is known about the problem till Date. Thus equipped with latest development in the field he can handle the problem of interpretation of the results of his investigation more meaningfully and accurately. In short, significance of this step, i.e., review of related literature, in any scientific

enquiry is, indeed, very vital. The present chapter is devoted to a brief discussion of research studies conducted earlier in this area.

To begin with, it may be worthy of notice that since the early exploratory studies of Anderson (1939) and Lippitt (1943), research on teacher behaviour has now become more systematic, objective and scientific. During the past two decades numerous researches were carried out (a) to develop a variety of interaction analysis systems such as those of Withall (1949), Bales (1950), Houghes et al. (1959), Cogan (1956), Ober (1967), Hough and Duncan (1970) and Flanders (1960), etc., (b) to identify and analyse patterns of teacher behaviour such as those of Flanders (1960), Nelson (1960), Norma Furst and Edmond Amidon (1962), Pankratz (1967), Buch and Santhanam (1970), Pareek and Pangotra, etc., (c) to investigate relationship of teacher behaviour with pupil achievement and attitudes as those of Flanders (1960), Soar (1968), Snider (1965), Rilda Taba (1964), etc., (d) to study the change in teacher behaviour as a result of training in interaction analysis and feedback such as those of Hough and Ober (1964), Flanders (1963), Norma Furst (1965), Kirk (1966), Amidon and Powel (1966) and (e) to study relationship of teacher behaviour with his personality and others variables, as those of Ryan, R.D. (1960), L.P. Singh, Buch and Santhanam, Buch and Dureshi and Shashikala.

Numerous studies, some closely and some remotely related to the present problem, have been completed till the time of the writing of this review. In these pages an attempt has been made to review those studies which were thought to have some bearing on the present investigation. Even among them, selection had to be made of particularly those investigations which included any of the variables of this study for studying its relationship to teacher behaviour. The researches reviewed in this chapter generally fall into the following categories:

- (1) Studies relating to the analysis and description of teacher's classroom behaviour.
- (2) Studies relating to relationship between teacher's classroom behaviour and his job adjustment or his attitude towards teaching profession, as both job adjustment or attitude towards profession represent the same psychological object of interest.
- (3) Studies relating to the relationship between teachers' classroom behaviour and their values.
- (4) Studies relating to the relationship between teachers' classroom behaviour and their temperaments.
- (5) Studies relating to the relationship between teachers' classroom behaviour and their academic career.
- (6) Studies relating to the relationship between teachers' classroom behaviour and their needs.

(1) Description of Teachers' Classroom Behaviour

In the studies given below their authors obtained the following percentages of occurrences of different behaviour variables: (Tables 2.1, 2.2 and 2.3);

Table 2.1

Percentages of Various Categories of
Verbal Behaviour

Variable	Description	Student- Teacher Percentage*	Teacher Percentage**
<u>TEACHER</u>			
Cat 1	Accepts feelings	-	0.026
Cat 2	Praises	0.82	1.972
Cat 3	Accepts and expand pupil ideas	4.37	2.567
Cat 4	Questions	8.18	8.849
Cat 5	Lectures	34.18	34.013
Cat 6	Gives commands and directions	4.45	5.527
Cat 7	Rejects pupil's ideas threatens	1.75	1.774
<u>PUPIL</u>			
Cat 8	Respond to teacher	24.02	17.792
Cat 9	Initiate talk	1.63	13.051
Cat 10(a)	Unproductive Silence	7.10	14.424
Cat 10(b)	Productive Silence	13.50	-
		100.00	100.00

* Verma and Ansari, 1975

** Pareek and Rao, 1970

Table 2.2

Summary of Verbal Behaviour

Variable	Percentage*	Percentage***	Percentage**
Teacher Talk	54.00	68.00	62.75
Pupil Talk	25.60	20.00	25.65
Silence	20.50	12.00	12.60
Total	100.00	100.00	100.00

* Verma and Ansari (1975)

** Buch and Santhanam (1971)

*** Flanders (19 0)

1- The results quoted in these tables led the authors of these studies to conclude that (a) Teachers talk in the class-room for about 55 to 65 % of the time and pupils for about 20 to 25 % of the time while about 10 to 15 % of the time is spent when none talks, (b) For more than 50 % of the time when teacher talks he lectures whereas rest of his time is distributed in giving commands, issuing threats and in rejecting or accepting pupil ideas, (c) Pupils mostly talk in response to teacher's question or commands with very little initiation by themselves, (d) Teachers react immediately after the pupils have stopped talking for about 60 % of time and out of this time 44 % is used in questioning, and (e) For more than 50 % of the time teacher talk is purely content oriented.

2- Koul (1973) compared classroom behaviour of popular and unpopular teachers on the basis of Cattell's 16 PF test. Popular

Table 2.3

Percentages of Various Ratios of Verbal Behaviour

Variables	Symbol	Teacher		Pupil-Teacher	
		Percentage*	Percentage**	Percentage***	Percentage***
Teacher Response Ratio	TRR	42	61.6		42.648
Teacher Question Ratio	TQR	26	19.75		22.756
Instantaneous Teacher Response Ratio	TRR89	60	79.00		52.502
Instantaneous Teacher Question Ratio	TQR89	44	35.50		65.200
Pupil Initiative Ratio	PIR	34	21.80		10.972
Steady State Ratio	SSR	50	43.00		65.504
Pupil Steady State Ratio	PSSR	40	-		43.802
Content Cross Ratio	CCR	55	46.50		51.401

* Flander (1970).

** Buch & Santhanam (1971).

*** Verma & Ansari (1975).

teachers were found high on the factors A, B, C, G, H, N and Q₃ and lower on factors F, I, O and Q₄.

All such teachers were characterised as more outgoing, intelligent, emotionally stable, conscientious, venturesome, tough minded, shrewd, placid, controlled and relaxed than the teachers who were unpopular among their pupils.

Findings of the study brought out significant differences in the two types of teachers. Popular teachers accepted pupils ideas more, motivated them more and put more questions than unpopular teachers. On the other hand, they adopted less threatening or criticising behaviour than unpopular teachers.

Further, it was revealed that popular teachers talk less than unpopular teachers thus allowing greater opportunity to pupil expression than that allowed by unpopular teachers. Other differences found between popular and unpopular teachers related to their behaviour after the termination of pupil's talk. In this regard it was found that popular teachers had a greater tendency to react to pupil's feelings and ideas by praise or encouragement than unpopular teachers. Moreover, they showed more inclination to put questions to pupils at the termination of their talk than did the other group of teachers.

Two more significant findings of this study were that the popular teachers' classroom behaviour was more characterised by greater emphasis on subject content and more flexibility in communication through more rapid shifting from one category

of behaviour to another than that of their unpopular counterparts.

(ii) Teachers' Classroom Behaviour and Job Satisfaction/Adjustment.

Job adjustment, Job satisfaction and attitude towards the job are complimentary concepts. Adjustment or satisfaction is reflected in attitudes. The variable of teacher attitude towards teaching has been studied in relation to teacher behaviour in a few investigations. Their review follows:

1- S.K. Singh and R.A. Sharma (1977) attempted to study the relationship between attitudes of B.Ed. students towards teaching job and their teaching behaviour. They employed normative survey method. The normative survey testing and observation were done by administering Minnesota Teacher Attitude Inventory (MTAI) and using Flanders ten category system respectively. The results yielded by this study are tabulated below (Table 2.4).

Table 2.4 indicates that the highest and significant coefficient of correlation was 0.619 ($t = 17.158$) for category 3 (accepts feelings and uses ideas). The lowest but significant coefficient of correlation was 0.120 ($t = 4.078$) for category 7 and eta coefficient 0.356 ($F = 10.25$) for category 6. The eta coefficient and coefficient of correlation yielded consistent results. It may stated that categories, 1, 2, 3, 4, 6, 8

Table 2.4

**Coefficient of Correlation, Eta Correlation and Point Biserial
Correlation Between MTAT Scores and Interaction Categories**

Categories	N = 500		N = 500		N = 270	
	Pearson's		Eta		Point Biserial	
	Correlation	t	Correlation	n	Correlation	rp bis
1. Accepts feeling	0.360	8.635**	0.409	14.31**	0.640**	
2. Praises or encourages	0.226	6.124	0.289	6.43**	0.404**	
3. Accepts or uses pupil's ideas	0.619	17.158**	0.728	58.68**	0.398**	
4. Asks questions	0.329	7.745**	0.379	11.859	0.685**	
5. Lecturing	-0.493	12.632**	0.519	25.92**	-0.161	
6. Giving directions	0.353	8.824**	0.356	10.25**	0.456**	
7. Criticizing or justifying authority	-0.120	4.070**	0.422	15.15**	0.059	
8. Pupil talk	0.211	5.213**	0.507	26.31**	0.114	
9. Pupil Initiation	0.401	9.654**	0.463	19.23**	0.598**	
10. Silence or Confusion	-0.503	12.929**	0.506	24.26**	0.044	

** Significant at .01 level.

* Significant at .05 level.

and 9 appear to be significantly related with attitude towards teaching. The categories 5, 7 and 10 seem to be negatively associated with the MTAI scores. The first seven categories were also analysed exclusively and similar results were obtained.

The highest and significant point bi-serial correlation was found to be 0.685 for category 4 and lowest -0.044 for category 10 which was not significant. These results show that teachers using behavioural categories 1, 2, 3, 4, 6 and 9 possess more favourable attitude than those who use them less. But the reverse holds good in case of cat. 5 which is used less by the former than the latter group.

Categories 7, 8 and 10 do not appear to differentiate between teachers with favourable and those with unfavourable attitudes.

Similar analysis carried out for behaviour ratios and the MTAI scores by the author is presented in table 2.5.

Examination of table 2.5 reveals that significant and highest correlation was found to be 0.689 ($t = 21.105$) for indirect influence and eta correlation 0.674 ($F = 58.40$) for indirect to direct ratio. The lowest coefficient of correlation was 0.052 ($t = 1.139$) and the eta coefficient 0.096 ($F = 0.019$) for teacher talk.

Indirect influence, pupil talk, indirect to direct ratio,

Table 2.5

**Coefficient of Correlation, Eta Correlation and Point Biserial
Correlation Between MTAI Scores and Behaviour Ratios**

Behaviour Ratios	Pearson's Correlation	Eta Correlation	Point Biserial Correlation
1. Teacher Talk	0.052	1.139	0.096
2. Indirect teacher talk.	0.352	8.425**	0.385
3. Direct teacher talk.	-0.511	13.286**	0.524
4. Pupil talk	0.514	13.364**	0.519
5. Silence or confusion	-0.503	12.929**	0.506
6. Indirect to direct ratio	0.654	19.500**	0.674
7. Pupil initiation ratio	0.324	7.625**	0.379
8. Teacher response ratio	0.529	13.916**	0.545
9. Teacher question ratio	0.516	13.416**	0.524
10. Content cross ratio	-0.380	9.136**	0.420
11. Vicious circle	0.526	13.837**	0.535
12. Pupil steady state ratio	-0.440	11.055**	0.465
13. Instantaneous teacher response ratio	0.489	12.425**	0.545
14. Instantaneous teacher question ratio	0.342	8.135**	0.403
15. Steady state ratio	-0.329	7.770**	0.401

** Significant at .01 level.

pupil initiation ratio, Teacher response and question ratios, instantaneous teacher response and question ratios appeared to be significantly related to teaching attitude in male and female teachers for teaching subjects and teaching classes. Direct influence, silence or confusion, content cross ratio, vicious circle, steady state ratio and pupil steady state ratio were significantly and negatively associated with attitude towards teaching.

The highest and significant point biserial correlation was found to be 0.716 for pupil talk and the lowest 0.019 for teacher talk.

It may be stated that indirect influence, pupil talk, pupil initiation ratio, indirect to direct ratio, teacher response ratio, teacher question ratio, instantaneous teacher response and question ratios seem to differentiate the top and bottom groups in positive direction. The direct influence, content cross ratio, vicious circle, steady state ratio, pupil steady state ratio differentiate them in negative direction.

The relationship between interaction variables and MTAI scores was also studied by the author of the study. Obtained results have been summarised in table 2.6.

Table 2.6 indicates that the highest and significant coefficient of correlation was obtained to be 0.465 for

Table 2.6

Coefficient of Correlation, Point Biserial Correlation
Between MATI Scores and Interaction Variables

Interact variables	Pearson's Correlation		Point Biserial Correlation	
	r	t	rp bis	t
1. Indirectness ¹ / _{i+d}	0.458	11.732**	0.607	9.92**
2. Sustained acceptance (3-3) cell	0.392	9.567**	0.771	13.12**
3. Indirect influence Cat. 1,2,3 and 4	0.352	8.425**	0.707	15.88**
4. Question Cat. 4	0.329	7.745**	0.685	20.56**
5. Teacher Talk Cat.1-7	0.052	1.139	0.019	0.33
6. Restrictiveness Cat. 6-7	-0.519	13.372**	-0.582	9.43**
7. Restrictive feedback (8-6)+(8-7)+(9-6)+(9-7) Cell	-0.367	8.489**	-0.791	14.84**
8. Negative authority	-0.572	14.628**	-0.683	11.00**
9. Praise Cat. 2	0.226	6.124**	0.404	11.00**
10. Flexibility high 1/d-low 1/d	0.465	11.916**	0.480	7.63**
Sample	500		270	

** Significant at .01 level.

flexibility and the lowest and non-significant correlation of 0.052 for teacher talk.

Indirectness, sustained acceptance, questions, indirect influence, praise and flexibility appear to be significantly and positively related to attitude in respect of male and female teachers and teachers of languages, social studies, science, mathematics and also to teaching classes.

Restrictiveness, restrictive feedback and negative authority were significantly and negatively associated with teaching attitude, for male and female teachers and also for teaching subjects and grade levels.

The highest negative point biserial correlation of (-0.791) was found for restrictive feed back and the lowest for teacher talk. It may be interpreted that indirectness, sustained acceptance, indirect influence, questions, praise and flexibility seem to differentiate the extreme groups in positive direction.

The restrictiveness, restrictive feed back and negative authority also appear to differentiate but in negative direction.

The multiple correlation was found to be 0.529 between the MTAI scores and pooled ten interaction variables. It indicated significant and substantial relationship.

The major findings of the study may be summarised as follows:

- (1) Significant relationship was found to exist between teaching attitude and verbal interaction of teachers.
- (2) Flanders Categories - accepts feelings, praises or encourages, accepts feelings and uses student's ideas, asks questions, pupil talk and pupil initiation, i.e., categories 1,2,3,4,8 and 9 related positively with the attitude towards teaching.
- (3) Categories such as lecturing, criticising and justifying authority and silence/confusion, i.e., categories 5, 7 and 10 related negatively to attitude towards teaching.
- (4) Indirect influence, indirect to direct ratio, pupil talk, pupil initiation ratio, teacher response and question ratio, instantaneous teacher response and question ratio are positively related to attitude towards teaching.
- (5) Direct influence, silence/confusion, content cross ratio, vicious circle, steady state ratio and pupil steady state ratios are negatively related to attitude towards teaching.
- (6) Indirectness, sustained acceptance, indirect influence, questions, praise and flexibility are related to attitude towards teaching.
- (7) Restrictiveness, restrictive feedback and negative authority are negatively associated with attitude towards teaching.
- (8) Teacher talk is not related to attitude towards teaching.

- (9) Teachers having high attitude show the interaction models involving more student initiation and the teachers having low attitude show the interaction models characterised by more teacher directness.

2- Maheshwari (1976) studied the classroom verbal interaction pattern of effective and ineffective teachers using Attitude scores on MTAI as one of the criteria of effective-ineffectiveness. A sample of 200 teachers consisting of 100 effective (50 males and 50 females) and 100 ineffective (50 males and 50 females) was selected. The effective and ineffective teachers were identified on the basis of pooled criteria of Minnesota Teacher Attitude Inventory scores, academic qualifications, ratings of the Principals, student's ratings and students results. Flander's interaction analysis technique was employed for encoding and decoding the classroom verbal behaviour. The main findings of the study were as follows:

- (1) Effective teachers used the categories of accepts feeling, praises, uses student ideas, questions, student response and initiation, whereas ineffective teachers employed categories of lecture, direction, and exercise of authority in the classroom behaviour.
- (2) The effective teachers used more indirect influence, student initiation, teacher response ratio and pupil steady state ratio, whereas ineffective teachers used more direct influence, teacher talk, silence

or confusion, steady state ratio and non-stimulating situation in classroom behaviour.

- (3) In the effective teacher's teaching, student responses and initiations were followed by teacher's praise and acceptance of feelings, whereas in ineffective teacher's teaching, student responses and initiations were followed by direction and exercise of authority.

3- Sinha and Nair (1965) and Sinha and Singh (1961) found dissatisfaction related to higher rate of absenteeism.

4- Loken (1951), Palmer, Purpus and Stockford (1944) found it associated with turnover. Hoppock comparing the job attitudes of the 100 most satisfied teachers with those of 100 least satisfied (from a total group of 500) found that significantly larger proportions of the most satisfied group considered their work exciting, free from excessive supervision, and appreciated by others.

5- S.P. Anand in his study attempted to study teachers' job satisfaction in relation to work-role variables such as status in which teachers are working, qualifications, subjects of teaching, age and teacher's training. Findings of the study are as follows:

- (1) 50 % teachers working in schools were reported to be dissatisfied.
- (2) Status in which the teachers were working did not bear any correspondence with the job satisfaction.

- (3) A greater percentage of post-graduate teachers both in arts and science groups was found to be satisfied than the percentage of graduate teachers.
- (4) It was found that there exists no linear relationship between the age of teachers and their job satisfaction scores.

6- Bidwell (1965) working with a group of teachers noted, that when the behaviour of the administrator conformed to the teacher's expectations of the former's role, satisfaction was high; non-conformity produced high dissatisfaction.

7- In his study Malhotra, S.P. (1976) observed 250 teachers using FIAC and found a relationship between (a) demographic and professional variables and the indirect-direct teacher behaviour, (b) teacher attitudes and adjustment and indirect-direct teacher behaviour, other findings of the study were as follows:

- (1) There was negative relationship between the age of teacher and indirect-direct teacher behaviour.
- (2) The male and female teachers did not differ in direct-indirect teacher classroom behaviour.
- (3) The teachers with bachelor's degree were more indirect in their classroom behaviour than were teachers with master's degree.
- (4) Teachers with less teaching experience were more indirect in their classroom behaviour than teachers with high teaching experience.
- (5) Teachers with positive attitude were more indirect in

their classroom behaviour than teachers with negative attitude.

- (6) Poorly adjusted teachers were more direct in their classroom behaviour than teachers who were well adjusted.

8- Samantaroy (1971) attempted to find the nature of relationship among teacher attitude, teacher adjustment, and teacher efficiency on a sample of 320 graduate teachers of secondary schools of Orissa.

Findings of this study revealed (i) a significant correlation of + .49 between teacher attitude and adjustment, and (ii) Relationship of each of these variables to teacher efficiency.

(iii) Teachers Classroom Behaviour and Their Needs

1- In a study Shashikala, V.S. and Lalitha, V. Thirtha (1977) investigated the relationship between personality needs of teachers and their verbal behaviour in the classroom.

The sample consisted of 130 teachers from 67 randomly selected secondary schools of Bangalore city. All the teachers taught social studies to IX standard students. Flanders' Interaction Analysis Category System (FIACS) was used to observe teacher's classroom behaviour and Edward's Personality Preference Schedule (EPPS) was used to measure personality needs of the teachers.

The classroom observation of each teacher was tabulated in to the matrix form and from the matrix teacher behaviour ratios like i/d , TRR, TRR89, TQR, TQR89, and PIR were computed.

Greater magnitudes of i/d , TRR, TRR89 and PIR were taken to be indicative of indirect teacher behaviour and greater magnitudes of TQR, TQR89 were taken as indicative of direct teacher behaviour.

In this way six ratios formed the dependent variables of the study and 15 personality needs, the independent-variables.

The Pearson Product moment coefficients of correlation were calculated between measures of teacher behaviour and each of the 15 personality needs.

Table 2.7 shows the coefficients of correlation between EPPS Needs and teacher behaviour measures as obtained in the study under review.

(1) In this study i/d is found to be significantly and positively related to autonomy. Edwards (1957) described autonomy as a tendency to say what one thinks, to be independent of others in making decisions, to feel free to do etc.

autonomous individuals would be warm in the classroom, in the sense of rewarding students and accepting their ideas and feelings in a non-threatening manner.

(2) Affiliation is found related significantly and negatively

Table 2.7

Coefficients of Correlation Between EPPS Need and
Teacher Behaviour Measures
(N = 103)

Needs	1/4	TRR	TRR89	TOR	TOR89	PIR
Achievement	+ .1593	+ .1619	+ .3580**	- .0380	+ .0304	- .1651
Deference	- .0503	- .0113	+ .1068	- .1150	- .0175	+ .0038
Order	+ .1494	+ .1284	+ .1465	+ .1200	+ .0688	- .1505
Exhibition	+ .1822	+ .1594	+ .2600**	- .0900	+ .0782	- .0653
Autonomy	+ .1999*	+ .1596	+ .1456	- .1400	- .2477	- .0287
Affiliation	- .1632	- .2461*	- .8460**	+ .0820	+ .0962	+ .0523
Interception	- .0279	+ .0167	+ .0354	- .0008	- .0188	+ .0064
Succourance	- .0472	- .0794	+ .0594	- .1440	- .2814	+ .0231
Dominance	+ .0717	+ .0863	+ .0656	+ .0970	+ .0450	+ .8222
Abasement	- .0722	- .0629	- .1419	+ .0480	+ .1209	- .0920
Nurturance	- .1418	- .1524	- .0993	- .0800	+ .0660	+ .1995*
Change	+ .0921	+ .0431	+ .1545	+ .0480	- .0213	+ .2070*
Endurance	- .0672	+ .0745	+ .1456	+ .1300	+ .2440*	- .1430
Heterosexualty	- .0064	+ .0201	- .2755**	- .0132	- .0664	+ .0226
Aggression	+ .0516	+ .0019	- .0406	- .0112	+ .0615	+ .0946

* Significant at .05 level.

** Significant at .01 level.

to both TRR and TRR-89. These two refer to the manner in which teacher responds to pupils. The negative relationship here implies that teachers who respond positively more to student talk have a lesser need for affiliation.

The authors expected that teachers scoring high on affiliation which is described as being loyal to friends to do things with friends would exhibit positive mode of response to students' talk to a larger extent, but it is not borne out by the results of the study.

(3) TRR-89 was also positively related to achievement and exhibition and negatively to heterosexuality. While interpreting this finding, the authors say that teachers who have greater need for Achievement might perceive themselves as more positive individuals and hence may operate in the classroom at a lower level of anxiety which might enable them to react to students talk in a non-aggressive manner.

(4) TRR-89 and need for Exhibition were also found positively related. An individual, who scores high on exhibition, tends to say witty and clever things, to have others notice and comment upon ones appearance and to be the centre of attention. Such persons are expected to be involved in themselves and they would be slow to praise and react positively towards students' talk. In the light of these characteristics the finding is unexpected.

(5) In the study, TQR-89 was found related to Autonomy, succourance and endurance, negatively with the first two and positively with the third one. The negative relationship between Autonomy and TQR-89 implies that teachers who score high on Autonomy are low in TQR-89. If questions following students' talk are of the apathetic kind, this result can be explained. Teachers who are high on Autonomy may not have the patience to analyse students' wrong response and lead them by gradual questioning/^{to} the correct answer. This might account for negative relationship between autonomy and TQR-89.

The relationship between endurance and TQR-89 is positive and significant. The negative relationship between succourance and TQR-89 is explainable in terms of the dependent nature of individuals who score high on succourance. Such individuals seek support from others and hence they may not be patient with or sensitive to the difficulties experienced by others. A teacher with a high need for succourance, therefore, may react to wrong responses of students with criticism and direction, thus scoring low on TQR-89.

(6) PIR is positively and significantly related to two needs -- Change and Nurturance. This result implies that teachers scoring high on Nurturance and Change, will have classes in which pupil initiation is more. Teachers who are nurturant may welcome student initiation and be encouraging and supportive

to students and because of this kind of response students may initiate more talk.

Change is described as a tendency to do new and different things, to experience novelty in daily routine etc. This would mean that an individual, who expresses a need for change, is more open to new experiences and would be more tolerant of people and things. This might mean that teachers who are high in change are more tolerant and open to pupil talk and specially to talk which is initiated by the pupils and which might present a new example of any given problem. An alternative explanation may be that teachers who have a need for Change might get bored with the conventional "question and restricted response" pattern of teaching and to break away from this rigid pattern they might invite pupils to initiate ideas, question etc. The results of this study are to some extent in tune with the findings of studies conducted by Ryan (1960), Cooper and Bemis (1967), Sober (1967) and Qureshi (1972), who concluded that some personality variable are related to teacher behaviour.

2- Travers and others (1961) utilizing two large samples of elementary teachers attempted to relate teacher need with teacher behaviour. The four dimensions of need, i.e., achievement, affiliation, recognition and control as identified by the projective instrument appeared to be not significantly related

to the overt behaviour of teachers observed by employing Withall technique. The scores of teachers' 'need to control' as measured by paper and pencil test and teacher preference schedule, were significantly related to teacher controlling behaviour in the classroom.

3- In another study Koul found that seven of the Murrays needs, n-achievement, n-dominance, n-order, n-endurance, n-exhibition, n-affiliation and n-nurturance were the dominant needs of well liked teachers.

IV. Teacher's Classroom Behaviour and Their Values.

1- In the test manual (1951 revision) Allport Vernon Lindzey presented data for various occupational groups including a group of 68 male graduate students in Education compared with the male college students (N = 851), on whom the norms were based. The men in Education were higher on aesthetic and social values and lower on economic and religious values. On none of the value scores, however, were men in Education extreme.

2- A much more detailed picture of the responses of education students to study of value shows up in Mac Lean, Gowan and Gowan's descriptive study of 1,700 teaching candidates of UCLA (1955). Because of the large sample the researchers were able to present mean scores for both sexes and teaching speciality

sub-groups. With respect to the male Education students (N = 658), the men in Education were lower in economic and higher in social values than were men in general. Differences on the other value scores were negligible. Women Education students (N = 1,066) shared one important characteristic with the men. They, too, were lower on economic values than were the norms for either sex. In addition, the Education women were higher in theoretical and lower in religious values than were women in general.

3- A direct examination of the power of the study of values to discriminate between successful and unsuccessful teachers was made by Seagoe (1946) who correlated the scores of 314 students with ratings of their student teaching success made two years later. She also collected "field success" scores (Principal's ratings) on 25 of these students made two years after their graduation and correlated these with their original value scores. Thus, there was a two year and four year time gap between the administration of the study of values and the collection of teacher-effectiveness ratings. The correlations reported by Seagoe were small but interesting. Economic and aesthetic values showed the highest correlations with effectiveness ratings. The former correlated negatively ($r = -.33$) with student teaching success and the latter correlated positively ($r = .26$) with field success. Neither, however, shows a consistent relationship with both success criteria. In fact

there was a tendency for almost all the value scores to relate to one criterion or the other, but not to both. It is as if the values indicative of the good student-teacher bear no relationship to the value characteristic of the successful practising teacher.

4- Another attempt to relate value to teaching effectiveness was made by Tanner (1954), who studied two groups of education students labelled "Superior" (N = 44) and inferior (N = 22), on the basis of faculty ratings and MTAI responses. The superior women were significantly lower on economic and higher on social values than were the inferior women. Differences between superior and inferior men were not significant.

5- Few investigations have been attempted to find a relationship between values and teacher behaviour. One such study was conducted by Bowie (1957) who found that teacher verbal behaviour in classroom was influenced by his value pattern as identified by Allport-Vernon-Linsy study of values. She categorized the teacher verbal behaviour in terms of role taking process (feeling tone) and ideational content (ideas expressed) which implied a theoretical structuring.

6- Ravits (1959) found in another study that teachers' verbal behaviour reflected their concern for self or for students as identified by semantic differential inventory.

7- Studying the values of teachers, Koul (1973, 1974) found that only four sprangerian values, i.e., Theoretical, social, political and religious are found to be the dominant values of well liked teachers.

8- Ryan studied teacher behaviour in the context of their values and temperament. He identified three patterns of teacher behaviour:

Pattern X₀ - Warm, understanding, friendly versus aloof, egocentric, restricted teacher behaviour.

Pattern Y₀ - Responsible, businesslike, systematic versus evading, unplanned, slipshod teacher behaviour.

Pattern Z₀ - Stimulating, imaginative, surgent versus dull, routine teacher behaviour.

According to the findings, the above mentioned patterns did not vary significantly on the Allport-Vernon-Lindzey study of values. However, X₀ and Z₀ varied with the impulsive, dominant and sociable scales of the Thurstone temperament schedule.

V. Teachers' Classroom Behaviour and their Temperament

1- Jones (1956) conducted a study to find answer to the question whether the temperament test can be used to distinguish between "Good" and "average" teachers. She measured 46 female high school teachers on five traits assessed by Gilford

and Zimmerman temperament survey (General activity, Restraint, Ascendancy, Sociability and Emotional stability). Numerous other tests were included. Using a composite criterion involving practice teaching, grades, placement bureau ratings and Principal's ratings, Jones divided her subjects into two equal groups of 'good' and 'average' teachers. The single Gilford score discriminating between the two groups was "General activity". This score correlated 0.46 with the composite criterion of teaching success and Jones stated ... "good teachers would appear to be characterised as liking a rapid pace rather than a slow and deliberate one, they may be further characterised by liking for quickness of action and production of efficiency."

2- Ryan (1960) in his study "Characteristics of Teachers" found that impulsive, dominant and sociable scales of Thurstone Temperament schedule only varied with X_0 i.e. (warm, understanding, friendly versus aloof, egocentric, restricted) and Z_0 i.e. (stimulating, imaginative, surgent versus dull, routine) pattern of teacher behaviour.

3- Qureshi (1972) studied four dimensions of teacher behaviour, viz., I/D ratio, i/d ratio, proportion of teacher behaviour to student behaviour-T/S ratio, and teacher behaviour of accepting student ideas and student initiation in relation to their temperament and attitudes. The study was conducted

on 200 secondary school teachers. Flanders Interaction Analysis Category System was used for observing teachers' classroom behaviour.

Thurstone Temperament schedule and Wandt Glassey and Patel Attitude scale were used to measure Temperament and Attitude respectively.

Pearson's product moment correlation technique, stepwise regression analysis, 't' test technique were used for analysing the data.

The findings arrived at in this study are as follows:

- (1) Teachers' verbal behaviour in the classroom was related in a small measure to their personality and attitude.
- (2) Teachers' attitude towards democratic classroom procedures correlated significantly at .05 level to I/D and i/d ratios. The coefficient of correlation with I/D ratio was 0.15 and with i/d ratio 0.17.
- (3) The correlation coefficient of reflective trait with I/D ratio was $-.16$ (significant at .05 level).
- (4) Sociable trait was significantly related, the significance level being .05, to student initiation. The correlation between the two variables was $-.15$.
- (5) Reflective trait and attitude towards democratic classroom procedures were found to be the best predictors of I/D ratio, which was predicted to the extent of four per cent.

- (6) In the prediction of i/d ratio, attitude towards democratic classroom procedures, reflective trait, attitude towards management and sociable trait were found to be the best predictors. They predicted i/d ratio to the extent of eight per cent.
- (7) Teacher behaviour of accepting students' ideas could not be predicted significantly by any of the predictor variables.
- (8) Sociable trait was found to be the best predictor of student initiation. It predicted student initiation to the extent of 2.25 per cent.
- (9) T/S ratio could not be predicted significantly by any of the fifteen predictor variables.
- (10) Direct and Indirect groups of teachers did not differ significantly from each other on the seven personality traits, implying that personality does not affect teacher behaviour.

VI. Teacher's Classroom Behaviour and Their Academic Career

Research in relationship between teacher behaviour and his academic career is scanty. A few studies carried out to date in this connection are summarised below:

- 1- Debnath (1971) in his study conducted on 226 headmasters and staff members of 22 training colleges of West Bengal tried to find some determinants of teaching efficiency. The coefficients of correlation between the teaching efficiency and

age, experience, academic achievement and training were 0.21, 0.24, 0.19 and 0.31 respectively.

2 - Sharma (1971) observed 700 teachers of normal Government schools of Uttar Pradesh using FIACS. He found that teacher talk seemed to have negative correlation with academic grades whereas teachers' indirect influence seemed to have a high positive association with academic grades. At the same time pupil talk seemed to have a high association with academic grades.

3.4. Ryan in an attempt to find a relationship between teachers' behaviour and their academic success (achievement) while in college surveyed 1640 teachers. Teachers in the study were classified into four groups, viz.,

1. Outstanding students,
2. Good students,
3. Average students, and
4. Poor students.

The basis of classification was self reported academic success. The teachers who thought of themselves as having been outstanding students scored higher than the other groups relative to friendly, understanding classroom behaviour (X_0), responsible business like classroom behaviour (Y_0), stimulating, imaginative classroom behaviour (Z_0), favourable attitude towards pupils (R_{1CO}), favourable attitude towards democratic pupil practices (R_{1CO}), permissive Child Centered educational viewpoints (B_{CO}) and Verbal understanding (I_{ce}).

The mean scores decrease in a fairly orderly fashion as the good student, average student and poor student groups are considered. There were two exceptions to this general pattern on (Q_{CO}) (favourable attitude towards administrative and other school personnel) teachers who thought of themselves as having been 'good' with respect to academic achievement scored slightly higher than those who said they had been outstanding students, and the eleven teachers who admitted to having been poor students scored second only to the 'outstanding' students with respect to verbal understanding(I_{CE}).

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Chapter 3

METHOD OF THE STUDY

There are several methods of conducting research in the field of Education and psychology. The choice of a method depends upon the nature of the problem of research. Since the present study is based on observation of live interaction in the classrooms, the method of the study falls under descriptive survey of research which, according to Travers, "is designed to determine the nature of existing state of affairs... the simplest survey attempts only frequency counts of events while the more complex seeks to establish relationship between events."

The present investigation was not only aimed at recording and describing teachers' classroom behaviour but it went beyond that and attempted to compare and contrast teacher groups formed on the basis of direct-indirect classroom influence and to find relationship of teacher behaviour with certain selected teacher variables.

The techniques generally employed in a study based on this method are (a) Questionnaires, (b) Rating scales and inventories, and (c) Observation records. In addition to

these, psychological tests and other measuring devices are also frequently used. The analyses of the answers sought are performed in order to study what factors are systematically associated with certain occurrences, conditions or types of behaviour. In the present study one of the major aims sought to be achieved pertained to discovering the relationship between teacher's classroom behaviour as dependent variable and certain personality and job related variables as independent variables for which data was collected through observational technique and other tools.

The method of the study did not involve just mailing of some questionnaires or the administration of some psychological tests. That kind of survey leaves much to be desired. Rather, the present investigation was conducted through personal contact by the investigator with each member included in the sample and direct observation of his classroom behaviour, the analysis and interpretation of which in relation to some selected teacher characteristics formed one of the objectives of the study. In addition to this several psychological tests were also administered to each member of the sample individually or in small groups of teachers selected from a given school. Further more, the study required not one but several visits to each selected school and observation of classroom interaction of each selected teacher on more than one occasion with suitable interval between the occasions. The method of selection of the

sample and collection and analysis of the data is described in the pages that follow.

Sample of the Study

Adequate sampling design involves a number of considerations such as nature and characteristics of the population from which sample is to be drawn, accessibility to the subjects chosen, availability of time and resources at the disposal of the investigator, choice of appropriate statistical treatment of the data etc. While choosing samples for the study, a careful consideration was given to all these problems and efforts made to collect appropriate sample. The population from which sample for this study was to be drawn comprised Higher secondary school teachers of U.P. In selecting the schools as also teachers from each of them the investigator was, it may be admitted, mainly guided by the factor of accessibility and even more than that; the cooperation of the participating teachers. The investigator welcomed the participation in the study of such institutions and teachers who expressed ready willingness to allow observation of their classroom behaviour and administration of the tests and assured that they would not feel disturbed by repeated visits of the investigator. The fear that cooperative teachers will make a selected group and exhibit unique pattern of behaviour because of their bias towards cooperation was unfounded.

Sufficient variability in their behaviour was noticed to enable the investigator to classify them into indirect, moderately direct and direct teachers. In fact, wherever Heads of the institutions were cooperative and research minded, the investigator found almost all teachers cooperative. Thus, selection of institutions was mainly based on cooperation of the Head and selection of teachers from each school was done, by and large, randomly. It may, however, be added that strict adherence to the principle of randomness was not possible in a study of this type. Teachers, who displayed, almost complete absence of variability in their interaction with the pupils by asking them to carry out a single kind of activity, throughout the whole period of observation, had to be dropped from the sample right at the time of trial observation which was undertaken to acquire familiarity with the teachers and reduce the factor of novelty. Notwithstanding these constraints, the investigator was able to select a sample that suitably represented the parent population of higher secondary school teachers.

Size of the Sample

There is no universal agreement upon formula to determine the size of the sample. Its size, by and large, depends upon the purpose of the study, the degree of precision of the results required in decision making and the type of statistical techniques to be used in analysis of the data. There is, however,

little doubt that, other factors being equal, the larger the sample the greater should be the accuracy of results. But this ideal is really difficult to achieve and some compromise has always to be struck. Keeping in consideration both the practical difficulties, as also the requirements of the study, a researcher has to restrict the size of his sample so that neither the resultant data becomes unmanageable to handle, nor do the generalizations and findings arrived at become questionable on account of inadequacy of the sample size. The selection of sample for this study was made for (a) collection of data for hypothesis testing and (b) development of job adjustment inventory. The former is described in the pages that follow, whereas the latter will be dealt in chapter 4 which concerns the development of tools.

Sample of the Main Study

This sample being the main sample of the study consisted of 200 teachers selected from Higher Secondary Schools of five districts, viz., Aligarh, Bijnor, Bulandshahr, Gorakhpur and Meerut, out of the 57 districts comprising the state of Uttar Pradesh. The selection of districts was made through lottery system. Teachers from the sampled schools were, however, chosen randomly from ^{amongst} / these who taught Arts and Science subjects. The distribution of the sample is presented in table 3.1. The schools belong to different categories of management and range

from good to poor in regard to the standard of performance of their pupils. Some of them have shown, in the past, high pass percentages in the examinations of High School and Intermediate Board, with good percentage of first and second divisions. As against them, some schools showed poor pass percentage as well as poor results in terms of merit. Furthermore, all sampled schools were found to cater to the educational needs of pupils belonging to lower income groups, middle income groups and upper middle income groups. In short, the schools formed a mixed group in regard to all important factors assumed to be related to teacher behaviour. Likewise, the teachers of the selected schools formed an unselected group in regard to their ages, experience, subjects taught, income and residence.

Under these conditions, it can be safely presumed that the teachers included in the study formed a cross section of the Higher-secondary school teachers of Uttar Pradesh and roughly constituted a random group in so far as the factors that go to influence the results and introduce bias in them are concerned. Distribution of the sample in terms of various important variables is presented in tables 3.1 to 3.4.

Sample Used for the Development of Job Adjustment Inventory

This sample was used to try out the rough draft of the Job adjustment inventory developed by the investigator. It comprised

Table 3.1

Institution and Subject Area-wise Distribution of the Sample

S.No.	Institution	SUBJECT GROUPS		Total
		Science	Arts	
1	Zakir Husain H/S, Aligarh	4	5	9
2	Junior High School, Aligarh	1	5	6
3	A.M.U.City High School, Aligarh	8	12	20
4	M.I. I/C, Sikandra Rao, Aligarh	14	21	35
5	Bijnor Inter College, Bijnor	9	14	23
6	K.S.S.H/S School, Bulandshahr	4	9	13
7	Govt. Normal School, Bulandshahr	2	2	4
8	Govt. Inter College, Bulandshahr	1	2	3
9	J.I. Inter College, Gorakhpur	3	7	10
10	M.A.H. H/S, Gorakhpur	4	10	14
11	A.J. H/S, Gorakhpur	3	11	14
12	M.I. Inter College, Gorakhpur	7	2	9
13	Faiz-e-Am I/C, Meerut	7	20	27
14	B.A.V. I/C, Meerut	5	8	13
Total number of Teachers		72	128	200

Table 3.2

Management-wise Distribution of the Sample

S.No.	Type of Management	No. of Institutions
1	Government	2
2	Private	9
3	University	1
4	Local bodies	2
Total Institutions		14

Table 3.3

Experience-wise Distribution of the Sample

S.No.	Experience in years	No. of teachers
1	1 - 5	33
2	6 - 10	32
3	11 - 15	45
4	16 - 20	23
5	21 - 25	19
6	26 and above	48
Total No. of Teachers		200

Table 3.4

Subject-wise Distribution of the Sample

S.No.	Subject	No. of teachers
1	Hindi and Urdu	43
2	Social Sciences	38
3	English	46
4	Science	34
5	Mathematics	39
Total No. of Teachers		200

a total of 150 teachers (108 men and 42 women) from the secondary schools of Aligarh, Bijnor, Bulandshahr and Meerut districts. The main consideration in choosing sample for this purpose was that it should include teachers who have variation in experience, classes and subjects taught by them. It was ensured by making random selection of the teachers as

also the schools from several districts of Uttar Pradesh. In order to keep the total number of teachers in the try-out sample within required limits, it was decided to select only two schools from each of the districts and restrict the number of districts to four. The distribution of the sample for trial run of the job adjustment inventory on the basis of Districts, schools and subject areas is presented in Table 3.5.

It may be added here that this number seemed adequate to constitute the try-out sample for development of job adjustment Inventory whose rough draft comprised 70 items. Psychometric expert such as Guilford has recommended that the size of the try out sample should not be less than twice the number of items in the preliminary form of the test. This principle was to some extent adhered to in developing the Job Adjustment Inventory.

It may also be mentioned here that in characteristics such as age, experience, subjects taught, qualifications, income and type of institutions in which members of try out sample are employed, etc., the group constituted a cross section of the population of the higher secondary school teachers and was similar to the main sample of the study as it was randomly selected from parent population of the main sample. It is well confirmed by the statistics provided in Table 3.6.

The t-values computed to find out if the difference in means of ages, experience and income of the main and the try out

Table 3.5

District, School and Subject Area-wise Distribution of the Sample.

S.No.	District	School	No. of Teachers			Total
			Language	Science	Arts	
1	Aligarh	A.M.U. City High School, Aligarh	10	15	10	35
		Zakir Hussain Hr. Sec.School, Aligarh	2	4	1	7
2	Bulandshahr	Govt. Girls Inter College, Bulandshahr	4	8	9	21
		Government Inter College, Bulandshahr	2	3	2	7
3	Bijnor	B.I. College, Bijnor	6	8	4	18
		Govt. Girls Inter College, Bijnor	3	6	3	12
4	Meerut	Faiz-e-Ah Inter College, Meerut	8	13	6	27
		B.A.V. Inter College, Meerut	8	12	3	23
			43	69	36	150

Table 3.6

CHARACTERISTICS OF MAIN SAMPLE AND TRY OUT SAMPLE

S.No.	Variables	Main sample N = 200		Sample used for try out N = 150		Sig. of difference between Means
		\bar{X}	S.D.	\bar{X}	S.D.	
1	Age	37.968	5.727	37.050	7.800	0.048
2	Experience in years	10.384	6.623	10.160	6.460	0.046
3	Income per month in Rs.	631.893	258.259	643.340	276.230	0.101
4	Percent of teachers teaching different subjects:					
	(a) Science	36.500		34.000		
	(b) Arts	19.000		26.000		
	(c) Language	44.500		40.000		

samples came out to be statistically insignificant showing thereby that the two groups were similar in these characteristics. Likewise, when the percentages of teachers teaching each subject group in main sample were compared with their counterparts in try out sample no much difference was found. This evidence goes to show that the job adjustment inventory developed with the help of this try out sample will equally well apply to the general population of secondary school teachers of Uttar Pradesh and other states contiguous to Uttar Pradesh, specially to teachers employed in schools of Hindi speaking region.

Tools Used

The variables included in the present study were: Teachers classroom behaviour (dependent variable) and their values, Needs, Temperament, Job adjustment and Academic career (independent variables). In order to be able to collect reliable and valid data in regard to these variables the investigator was faced with the problem of the choice of such measures of these variables as were not only highly reliable and valid but also were simple in language, easy to administer and score and conveniently available. Additionally, the same ought to be suitable for Indian conditions. Keeping all these criteria in mind the investigator made a careful study of the manuals of tests developed in the area of his interest. He found that the following tests served his purpose best and used them

in their original form.

- (1) 'Value test' developed by Dr. R.K. Ojha for assessing values of the secondary school teachers.
- (2) 'Personal Preference Schedule' developed by Tri pathi for measuring needs.
- (3) 'Temperament Schedule' constructed by Thurstone for gathering data about temperament.
- (4) Besides selecting the above tools one was developed by the investigator himself and used for gathering data regarding job adjustment of the secondary school teachers. It was named as 'Occupational Adjustment Inventory'.
- (5) Data about teachers classroom behaviour was gathered by modified version of Flanders Interaction Analysis Category System. Modification in the original system was effected by the investigator since the same was found inadequate for making finer categorization of teacher's classroom behaviour.
- (6) Lastly, information regarding teachers' academic record was obtained from their service records and a questionnaire quantified by using a method which has been discussed at an appropriate place in the study.

Description of Tools

1. Flanders Interaction Analysis Category System:

As indicated above, to observe the classroom behaviour of teachers, a modified form of Flanders Interaction Analysis Category System was used. The modified system consists of the

following fifteen categories:

Teacher Talk

- Cat. 1 Accepts feelings.
- Cat. 2 Praises or encourages.
- Cat. 3 Accepts or uses ideas of pupils.
- Cat. 4a Asks narrow questions.
- Cat. 4b Asks thought provoking questions.
- Cat. 5a Reading from the book by the teacher.
- Cat. 5b Lecturing.
- Cat. 6 Giving directions.
- Cat. 7 Simple rejection, without any comment.
- Cat. 7 Rejection with criticism.
- Cat. 7 Rejection with corrective feedback.

Pupil Talk

- Cat. 8 Pupil - response.
- Cat. 9 Pupil talk - initiation.

Silence

- Cat. 10a Productive silence.
- Cat. 10b Non-Productive silence.

Out of these fifteen categories, eleven categories are used when the teacher is talking, two are used when any pupil is talking and the rest two categories indicate silence and confusion. These three patterns of communication contain all possible and practically observable verbal behaviour in classroom.

Observation and Coding of Teacher's Classroom Behaviour

The behaviour represented by different categories is memorized and observed as per set of ground rules which govern the coding process. The observed categories are then tabulated in order to arrange a display which aids in describing the original events. The observer has to code 20 to 25 tallies per minute, i.e., one tally after every three seconds, keeping the tempo as steady as possible. Conversation, represented by code symbols is sequenced in the following manner:

1st pair		3rd pair		5th pair	
2 ——— 3	3 ——— 5b	5b ——— 4a	8		
	2nd pair	4th pair	6th pair		

To form a pair, each code symbol is used twice except for the first and last. Hence there are $(n-1)$ pairs when there are n code symbols.

Tabulation of Coded Behaviour in Interaction Matrix

The observation yields a 15 x 15 matrix consisting of 15 rows and 15 columns. Each column and each row corresponds to one of the 15 categories. In all 225 cells are formed by the rows and columns. Each cell has its own name which is its address. Each cell of the matrix accommodates frequencies of occurrences of pairs of only one kind.

The first number of any pair designates the row and the second number designates the column. A pair that consists of Cat. 4a and Cat. 8, in that order has the address 4a-8. This pair is accommodated in the cell which is at the intersection of row 4a and column 8, addressed "four-a-eight" cell. The category of productive silence 10a is added at the beginning and the end of the list of code numbers and then pairs are formed with 10a as the first code symbol. Now a tally mark is made on the tabulating matrix in the row 10a and column designated by the first code symbol which follows 10a. Since subsequent tallies may be added to the same cell, the mark is in the cluster of five, e.g., which helps in adding.

Entire observation is tallied in this manner including the extra 10a which is added to the observation in the beginning and the end. Tally marks are then added to every cell. The rows and columns are added and the sum is entered in the appropriate space. If there is no tabulating error, each corresponding row and column total will be identical. The total of all the rows gives the total of the matrix. If there are n code symbols, matrix total will be $(n-1)$. From the matrix percentages of different categories, cells, segments and the ratios are computed in order to display original events and pattern of interaction.

Identification of Direct and Indirect Teachers

In some studies criteria to select indirect and direct teachers are based on the median value of I/D. Teachers having I/D value above the median of the I/D values of the sample are supposed to be indirect and those having I/D value below median as direct.

B.K. Passi in his study classified teachers into authoritarian and democratic sub-groups with the help of (i) I/D, (ii) i/d, and (iii) combined criteria of I/D and i/d. Teachers lying above and below the cutting scores or ratios which were .90 for I/D and 1.62 for i/d were termed as democratic and authoritarian respectively. M.B. Buch and M.R. Santhanam classified direct and indirect teachers on the basis of I/D and i/d ratios found by the following formula:

$$I/D = \text{Cat } 1+2+3+4 / \text{Cat. } 1+2+3+4+5+6+7$$

and

$$i/d = \text{Cat } 1 + 2 + 3 / \text{Cat. } 1 + 2 + 3 + 6 + 7$$

With the use of this formula, teachers having an I/D value of 0.5 or more than 0.5 were classified as indirect and those having an I/D value below 0.5 as direct teachers.

Lois L. Nelsen, T.R. Storlie, Edmund Amidon and Flanders, and most of the other investigators computed I/D and i/d ratios in their studies on the formulas devised by Flanders which are:

$$I/D = \text{Cat. } 1+2+3+4 / \text{Cat. } 5+6+7$$

and

$$I/d = \text{Cat. } 1 + 2 + 3 / \text{Cat. } 6+ 7$$

In the present study, the investigator developed indirect direct ratio on a different formula which is given below:

$$I_z/D_z = \frac{\text{Cat. } 1+2+3+4a+4b+7f}{\text{Cat. } 5a+5b+ 6 + 7c}$$

Limitations in various I/D and I/d ratios and rationale of the above modified I_z/D_z ratio are discussed in the next chapter.

Training By the Investigator in the Use of FIAC

It may be added here that without proper training in observation according to FIAC system, it is not possible to collect reliable data. The investigator received training before beginning to collect data for the study.

As a first step in preparation for observation he memorized the code numbers in relation to key phrases, e.g., Cat. 1 - accepts feelings, cat. 5b - lecturing, etc. The observer then received training in the technique of observation of classroom interaction. Training began with tape recordings of classroom interaction. After preliminary training with tape-recordings, he started first hand classroom experience. During this second phase of training, the presence of an experienced trainer

was essential. Achieving high degree of consistency in observation by the investigator required discussions of common ground rules, observers' understanding of his own biases and regular post-observation meetings to discuss unusual categorization problems or explanation^{of} any unusual circumstances of which the trainee might have taken note. For this purpose, the supervisor, who had already established the reliability of his observation, helped the investigator. Training continued till the inter-observer reliability reached 0.85.

Method Used to Estimate Reliability

Scott's method seemed to be the most appropriate to compute interobserver reliability. The formula is unaffected by low frequencies, can be adopted more rapidly in the field, and is more sensitive at higher levels of reliability.

Scotts' coefficient is determined by the following formula:

$$P_1 = \frac{P_o - P_e}{1 - P_e} \quad (1)$$

Where P_o is the proportion of agreement, P_e is the proportion of agreement expected by chance which is found by squaring the proportion of tallies in each category and summing them over all categories

$$P_e = \sum_{i=1}^k P_i^2 \quad (2)$$

In formula (2) there are K categories and P_i is the proportion of tallies falling into each category. P_i , in formula (1), can be expressed in words as the amount that two observers exceed chance agreement divided by the amount that perfect agreement exceeds chance.

Reliability of the FIAC System

Reliability of this tool depends on the reliability of observation. Hence, the observer has to achieve a high degree of reliability in his observation of the classroom interaction. The reliability data pertaining to the present investigation is provided below. As stated in the foregoing section, all interobserver reliability coefficients were computed by using Scotts' formula. During the training period the investigator, the other trainee and the supervisor tested the degree of agreement of observation between themselves on three occasions at reasonable intervals of time. During the final phase, the investigator also computed his agreement with Flanders' standard episode (Flanders pp. 56-67). The results are provided in Table 3.7.

According to the author of FIAC, observation will yield reliable data when the observer's agreement with the other expert is 0.80 or more. The coefficients given in table 3.7 show that in case of observations on the last occasion

Table 3.7

Reliability of Observation

Criteria of comparison	"pi" Coefficients of Observer Reliability Occasions		
	1	2	3
1. Supervisor vs investigator	.70	.75	.85
2. Flanders' standard episodes vs investigator	-	-	0.82
3. Investigator vs another trainee	.70	.82	.86

investigators' agreement with the supervisor and Flanders' standard episodes exceeded .80. Hence the behavioural data collected and used in this study can be safely presumed to have sufficiently high reliability.

2. Thurstone Temperament Schedule (see appendix 1)

Most of the temperament tests describe a person in terms of psychotic or neurotic tendencies. Since, the subject of this study, i.e., teachers are reasonably well adjusted persons, these clinical stereotypes do not meaningfully describe their personality traits. So, Thurstone Temperament schedule that emphasizes important, stable traits which describe how normal, well adjusted people differ from each other was chosen for use in this study.

Area Covered By the Schedule

The following seven areas are covered in a relatively short questionnaire:

(1) A - ACTIVE, (2) V-VIGOROUS, (3) I-IMPULSIVE, (4) D-DOMINANT, (5) E-STABLE, (6) S-SOCIABLE, and (7) R-REFLECTIVE.

Format

The schedule has in all 140 items printed in a booklet having six step-down pages. The items are expressed in simple English with their contents having universal application.

Administration

The Thurstone temperament schedule is self administering. It may be given with or without supervision to individuals or to a group. The directions for taking the test are printed on the first page of the schedule. The subjects are to answer each item by marking one alternative Yes, ?, or No. There is no time limit. Sufficient time is allowed for everyone to complete all items.

Scoring

Since the original booklets were not available, and their printing was not possible due to their peculiar form and typical nature of grid page which on one side is used as answer pad and on the other side as scoring key, ordinary booklets were printed. Two graph papers were used to

represent both sides of the grid page. On one of the graph papers responses from the booklets were transferred. It was used as answer pad. The other graph paper was prepared to be used as the scoring key. Since only correct responses were visible from the scoring key, incorrect responses do not record themselves at all.

Plotting the Individual Profile

Profile Charts in terms of percentile ranks are printed on the answer pads and answer sheets. There is one profile for adult men and women and another for high school boys and girls. Following steps are taken to plot the profile:

- (1) For men and women, adult profile is used and if the subjects are high school boys and girls then the boy and girl profile is used.
- (2) In the space at the top of the profile chart, scores for "A" are copied through "R" from the answer pad or answer sheet.
- (3) Under "A" a number is found which is the same as the score at the top. This number is used under "M" if subject is a man or boy and under "F" if the subject is a woman or girl.
- (4) A line is drawn through this number in the column with a pencil.
- (5) The same is repeated for the scores at the top of each other column.

- (6) Percentile rank for each raw score is read from the scale at the side of the profile. The transformation from raw scores to percentile ranks is thus made directly on the profile chart.

In this study , however, raw scores were used. Profiles were not plotted because the objectives of the study did not require that kind of data.

Reliability

The reliability for the seven areas of the schedule have been computed by the split half method for the four groups, viz., men, women, high school boys and high school girls. Reliability data pertaining to men and women is provided below:

Table 3.6

Reliability Coefficients For Seven Areas of The Thurstone Temperament Schedule

Temperamental Traits	Men	Women
Active	.48	.46
Vigorous	.61	.63
Impulsive	.65	.65
Dominant	.77	.77
Stable	.63	.64
Sociable	.68	.73
Reflective	.73	.62
N	200	157

The author also provides information regarding reliability of the schedule as found by the Test-retest method in respect of a sample of 81 male executives. Following are given the coefficients of correlation between scores of the group on two occasions in respect of each of the seven areas.

	AREAS						
	1	2	3	4	5	6	7
rs.	0.78	0.78	0.79	0.82	0.61	0.73	0.75

Validity:

A study of validity was conducted with ten groups of sales employees of a national retail company. The supervisors of each group completed a forced choice rating scale for each of his employees. The scale included pairs of items describing the seven traits measured by the schedule. In each pair one item describes behaviour typical of the high scoring individual and the other item describes behaviour typical of the low scoring individual. Supervisors selected the item of each pair that best described the employee. Ratings were compared with the employee's actual test performance. Biserial coefficients of correlation between the ratings and actual test performance are given in table 3.7.

Table 3.3

**Biserial Correlation Coefficients Between Predicted
Ratings of High and Low Scores and Actual
Scores on the Temperament Schedule**

	Active	Vigorous	Impulsive	Dominant	Stable	Sociable	Reflec- tive
r bis	0.95	0.93	1.00	0.92	0.90	0.98	0.81

These coefficients indicate that behaviour can be described accurately by the temperament schedule.

The validity of the Thurstone Temperament Schedule has also been studied by using effectiveness of Job performance as a criterion. Ryan studied Thurstone Temperament schedule scores in relation to teacher performance. The subjects were 275 third and fourth grade teachers. Three and in some cases, four trained observers rated teachers independently on a number of criteria such as teachers' sociability, his understanding and humour and attitude. On each criterion a high group (Group H) and a low group (Group L) of teachers was selected for comparison on the Thurstone Temperament schedule. The results of his study indicate that four scales of the Temperament schedule may help discriminate between teachers who are effective and those who fail in various classroom situations.

3. Value Test (See Appendix 2).

The value test of Dr. R.K. Ojha used in this study is an adaptation of Allport Vernon-Lindsay study of values based on six

Spranger's values, viz., Theoretical, economic, Aesthetic, Social, Political and Religious. The effectiveness of Allport Vernon test as a predictor of inter individual differences in behaviour displayed in various types of human endeavours has been established in numerous studies. Hence, it was thought to be quite suitable for the present study. Its adaptation by Dr. R.K. Ojha has an added advantage of ^{being} oriented to Indian conditions.

Format - The scale is divided into two parts. The first part contains 30 questions. There are two alternative answers for each question. The second part contains 15 questions, and for each question there are four alternative answers. In this way there are in all 45 questions and 120 alternatives on six values.

Administration - The scale can be administered individually or to a large group at a time with separate instructions for part 1 and part 2. For part 1 subjects have to indicate their personal preferences by writing appropriate figures in the boxes to the right of each question. They have to choose an alternative that is relatively more acceptable to them to give it priority over the other even if the alternatives appear to be equally attractive or unattractive. Each question is assigned 3 points in two combinations. For part 2 each question has four alternatives and subjects have to assign points from 4 to 1 to the alternatives on priority basis. In this way each question is assigned 10 points in the four combinations.

Scoring - Before scoring it is made sure that every question has been answered. Scoring is easy and simple. On each page responses to all the six values are scattered in the boxes under letters A, B, C, X, Y, Z. A indicates theoretical value, B economic, C aesthetic, X social, Y political and Z religious. Vertical columns of scores on each page are added and total is entered in the boxes at the bottom of the page. The total from each of the foregoing pages is transcribed in the table on the front page. For each page is then entered the total for each column A, B, C, X, Y, Z in the space that is labelled with the same letter, as the order in which the letters are inserted in the columns differ from page to page. Totals for all the six columns are then added. Tabulation can be checked by making sure that the total scores for all the six columns equals to 240.

The raw scores, thus obtained, were taken as indices of different values held by the teachers, since no further conversion of the raw scores into normalized scores was required to meet the need of the present study.

Reliability - Reliability of the value test as computed by Kuder Richardson formula is reported by the author for each sub-test as under;

Theoretical	Economic	Aesthetic	Social	Political	Religious
.70	.80	.69	.89	.88	.71

- (1) The sample data must be drawn randomly from the population,
- (2) The population from which each sample is drawn must be normally distributed, and
- (3) the variance in the groups must be homogeneous.

An attempt would now be made to see whether these three assumptions have been satisfied by the data.

Assumption 1 - It may be admitted that sampling for the study could not be done rigorously by random sampling method. However, in the selection of the teachers for the study, no specific group was selected and as the characteristics of the sample show (table 3.6) they are a mixed group in regard to experience, income, age, subjects taught etc., Therefore, the sample can be considered as very close to random sample.

Assumption 2 - The satisfaction of this assumption requires that the population from which each sample is drawn must be normally distributed. The sample of the study, it can be argued, satisfied this assumption because it constitutes a mixed group of teachers, and is close to random sample.

Assumption 3 - The satisfaction of this assumption requires that variance in the groups must be relatively homogeneous. For this Bartlett's test (1937) for homogeneity of variance is applied to see whether the data satisfies this assumption

Scoring - Before scoring it is made sure that every question has been answered. Scoring is easy and simple. On each page responses to all the six values are scattered in the boxes under letters A, B, C, X, Y, Z. A indicates theoretical value, B economic, C aesthetic, X social, Y political and Z religious. Vertical columns of scores on each page are added and total is entered in the boxes at the bottom of the page. The total from each of the foregoing pages is transcribed in the table on the front page. For each page is then entered the total for each column A, B, C, X, Y, Z in the space that is labelled with the same letter, as the order in which the letters are inserted in the columns differ from page to page. Totals for all the six columns are then added. Tabulation can be checked by making sure that the total scores for all the six columns equals to 240.

The raw scores, thus obtained, were taken as indices of different values held by the teachers, since no further conversion of the raw scores into normalized scores was required to meet the need of the present study.

Reliability - Reliability of the value test as computed by Kuder Richardson formula is reported by the author for each sub-test as under:

Theoretical	Economic	Aesthetic	Social	Political	Religious
.70	.60	.69	.69	.68	.71

Additionally, intervalue score correlations are also reported as evidence of the independence of values. They are as under:

Values	Economic	Aesthetic	Social	Political	Religious
Theoretical	+.32	-.40	-.39	-.62	+.32
Economic		+.48	+.46	+.56	+.60
Aesthetic			+.38	-.49	-.50
Social				+.57	-.54
Political					-.34

4. Tripathi Personal Preference Schedule (TPPS)
(See Appendix 3).

The tool is an adaptation of Edward's Personal Preference Schedule. It is a multitrait scale of 15 normal personality variables based on Murray et al. (1938). The 15 personality needs which the scale claims to measure are:

- | | |
|-----------------|---------------------|
| 1. Achievement | 2. Deference |
| 3. Order | 4. Exhibition |
| 5. Autonomy | 6. Affiliation |
| 7. Interception | 8. Succourance |
| 9. Dominance | 10. Abasement |
| 11. Nurturance | 12. Change |
| 13. Endurance | 14. Heterosexuality |
| 15. Aggression | |

Besides measuring these 15 personality variables, the schedule also provides a measure of test consistency which adds to its quality as a reliable measure.

Format - TPPS is a forced choice inventory. In the scale 135 statements of Edwards' Personal Preference Schedule have been translated into the Hindi language by the author. Three

statements belonging to the area of heterosexuality not suitable for an Indian sample were replaced by such statements as would contain normal heterosexual activities of the Indian population. There are 9 statements for each need variable and there are 15 need variables in all. Therefore, all the 9 statements of a need-variable have been matched with statements of the remaining 14 need variables with equal or nearly equal social desirability scale values of statements. Thus a total of 210 pairs of statements have been prepared and their serial numbers entered into a pair matrix. Each pair constitutes an item of the scale.

Administration - The scale can be administered either individually or to a large group at a time. Detailed instructions are written on the front page of the test booklet.

Scoring - Before scoring is started answersheets are examined so as to find out if there are any omitted items. If there are, then for each item a coin may be tossed. If it turns up "head" the response for the item is "ka" and if it turns up "tail" "kha" is the response for the item. In this way answersheet is completed.

Reliability - The two most common types of reliability coefficients, viz., internal consistency coefficient and stability coefficient were computed for the tool. Internal consistency was found by correlating the scores of rows with their respective columns representing the sub-scales. The

resulting coefficients are indices of internal consistency as measures of self correlation, very much like the one obtained by split half technique. The coefficients were substantially high, all above .92 except one in case of need heterosexuality which was .82.

Stability coefficients were based on the records of 187 students of the Department of Psychology, who took the scale twice, with an interval of one month between the two administrations. No correlation was found less than .64.

Validity - The author reports correlations of the 15 need scores on his scale and scores on TAT. Except in the case of two needs where rs were .50 and .56, the rs for all needs were above .82 which is an evidence of its convergent validity.

5. Occupational Adjustment Inventory (See appendix 4).

This scale was developed by the investigator. The method used for its construction is outlined in the next chapter. Here, only the salient features of the scale are given.

Format - The scale is a Likert type measure having 48 items in all, written in English. Some of the statements are positive whereas some are negative. They cover all important sources of adjustment or satisfaction, relevant to teachers' job and were selected from a number of lists provided by eminent vocational

psychologists and experienced teachers. The responses are made on a five point scale ranging from highly satisfied though neutral to highly dissatisfied.

Administration - The scale can be administered individually or collectively. It has no time limit but the respondents are expected to finish it within 10-15 minutes. They are instructed to mark each statement.

Scoring - Differential weightage is given to responses as follows:

<u>Responses</u>		<u>Scores</u>
Highly Satisfied	...	4
Satisfied	...	3
Neutral	...	2
Dissatisfied	...	1
Highly Dissatisfied	...	0

Scoring for negative statements is reversed. The score range possible on the scale is 0-190. Total scores of an individual are the summation of scores for all statements.

Reliability - Reliability coefficient as computed through the simplified form of Kuder-Richardson Formula (Ebel, 1966) of the scale was found to be 0.78. This shows that the scale has considerably highly reliability.

Validity - Validity of the scale was found by computing t value between the mean scores of highly satisfied and least satisfied group of teachers, which was found to be 3.3946, significant at

.05 level. This shows that Job adjustment Inventory has sufficient validity.

6. Teachers' Academic Record Questionnaire

The academic record questionnaire developed by the investigator has unique features. Unlike other studies in which percentage of pass marks in Board or University examinations are considered as indices of academic career, in the present study both quality and quantity, viz., division and qualification are taken into account for determination of academic career.

The format consists of statements regarding information about qualification, division, the year of passing the examination, the nature of training and the grade of teachers in which they are working. The questionnaire, having all statements written in English, can be administered individually or collectively. As the scope of information is limited, the respondents are expected to complete it within ten minutes.

Method of quantification - The method of quantifying qualitative variables such as level of education and the division obtained at each level was semi-empirical. The investigator could not find a better way than this to determine the relative weightage to be assigned to different levels of education and division in view of the consensus of experts of investigators' department. The questions that demanded objective and unbiased decisions in this regard included (1) What should be taken as

relative distance between different levels of education? Does High school level stand as much apart from Intermediate level as does Intermediate level from B.A. level and B.A. level from M.A. level in terms of number of absolute units of measurement? (2) Are qualifications of equal level in science and arts subject areas qualitatively similar and are to be assigned the same weightage while being quantified? (3) What relative weightage should be assigned to professional degrees earned by the teachers? (4) What relative weightage in terms of absolute units of measurement be given to divisions at a given level of education? (5) Do the same divisions earned at different levels of education deserve differential weightage? The majority of experts gave weightages 4, 2 and 0 to I, II and III divisions respectively on the marker, irrespective of the level of education, and for qualifications, High school was placed on 1, Intermediate/P.U.C. on 2, B.A. on 3 and M.A. on 4 on the marker provided in the questionnaire. They were also of the opinion to add 2 points in the total academic career of teachers who possess any qualification MA Ph.D. relevant to the needs of secondary school teachers, while qualifications like D.B.A., B.Lib., LL.B., etc. were considered to have no bearing on academic career of teachers.

Data Collection

Data collection step involved observation of classroom behaviour of the sampled teachers and administration of the tests described in the preceding pages.

Keeping in view the number of scales which were five, it was decided that they should be administered in phases, so that genuine responses may be obtained. Again, for administration and scoring of each scale, the directions and procedure prescribed by its author were strictly followed.

In the first phase, Thurstone Temperament Schedule, which contains 140 items and Academic Career Questionnaire were administered. After an interval of one week Ojha value scale, containing 45 statements and job adjustment inventory containing 48 statements were administered. The third phase followed after another interval of one week and Tripathi Personal Preference schedule was administered which contains 225 pairs of statements.

The scales were administered on the teachers individually in their vacant periods. Instructions were given to them before supplying the scales and they were again advised to read the instructions written on the front page of the respective scales.

Returned scales were checked by the investigator and omissions, if there were any, were detected to be filled by the respondents. Since there was no fixed time limit for any of the tests used by the investigator nor were they of right wrong answer type, there was no point of supervising or invigilating the administration to the teachers. It may be mentioned here that all the test data was collected during the

same period when observation of classroom behaviour of the teachers was in progress.

Statistical Techniques Employed

In order to analyse the data for the study, several types of statistical techniques were employed. A brief description and justification of their use is given below:

- (1) To describe teacher behaviour per cent occurrence of behaviour in various categories and behaviour ratios were computed.
- (2) To find out differences among the three groups of teachers on behaviour categories and behaviour ratios, means and S.Ds. were computed. Also, to compare the direct, indirect and moderately direct groups of teachers on independent variables, the means and SDs were computed.
- (3) Significance of difference between mean scores among the three groups of teachers was tested by 't' test.
- (4) Relationship between specific dimensions of teacher behaviour and various independent variables was determined with the help of Pearson Product Moment Correlation.

It may be added here that the computation of 't' is based on certain assumptions. According to Popham (1967) the assumptions which must be satisfied for the proper interpretation of 't' values are (1) the population from which each sample is drawn must be normally distributed, (2) the measures must be

randomly drawn, and (3) the variance in the groups must be relatively homogeneous.

The two important assumptions that the distribution must be linear and homoscedastic are required in case of coefficient of correlation.

It can be argued that if the distribution of the two variables is normal, the relationship between them will also be linear. Guilford (1957) also writes that "normality or near normality of both the distributions correlated is sufficient in itself to promote linearity". So the normality of the distribution of the variable is considered sufficient for the satisfactions of assumption of linearity.

Again homoscedasticity is also satisfied if the distributions are linear. Popham (1967) supports this view and writes "Ordinarily, a data is considered to be distributed in a homoscedastic fashion when the relationship is linear in nature". Since homoscedasticity depends upon linearity and linearity depends upon normality of distribution, therefore, normality of the distribution can be considered sufficient for the satisfaction of the assumptions of linearity and homoscedasticity.

Thus in the final analysis the following three assumptions are needed to be satisfied for the use of 't' test and product moment correlation:

or not. In case where variances were not found homogeneous, a formula different from the general formula of t was used. Otherwise, the general formula applied in case of groups with unequal size and equal variances was used. The level accepted for significance of ' t ' values are .05 and .01 (see Appendix 5 and 6) for the formulas of ' t ').

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Chapter 4

DEVELOPMENT OF TOOLS

A. DEVELOPMENT OF OCCUPATIONAL ADJUSTMENT INVENTORY

A measuring device is efficient to the extent its operations are relevant to the concepts that constitute the variable which the device is designed to measure. Yet, other essential qualities such a tool should include are the degree of the precision or accuracy with which it measures that variable and its comprehensiveness.

In developing the Job Adjustment Inventory for teachers to measure the extent of secondary school teacher's job adjustment, one of the several independent variables included in this study, the investigator took steps to see that his scale possesses these qualities in sufficient degree. Its development involved the following procedure.

1. Selection of sources or factors of job adjustment/satisfaction.

A study of the literature dealing with the job adjustment reveals that there is lack of agreement among vocational psychologists regarding the factors to be measured by job adjustment scale. The factors of satisfaction included in different scales are found to differ from scale to scale.

Only some of them are common to all the scales. To some extent, it is understandable. Some aspects of satisfaction-dissatisfaction universally characterise jobs whereas some are peculiar to a family of jobs or even a particular job. For the proposed scale, the investigator planned to select from the total universe of the sources of satisfaction common to jobs, only those that are significant to be determined by their frequency of mention in various job adjustment scales. The proposed scale was further to include all other such factors of satisfaction dissatisfaction that were unique to the job of teaching.

In order to make a judicious rational selection of the factors, the investigator studied the relevant literature of the eminent industrial psychologists. The factors investigated by different researchers are discussed below:

Super classified job satisfaction into three major categories:

- a) The work activity.
- b) The concomitants.
- c) The outcome.

These dimensions were further analysed to evolve a list of 15 factors.

National Industrial Conference Board (NICS, 1947) asked nearly 6,000 employees to select five most important sources of job satisfaction and developed a list of the following ten

factors most frequently given by the subjects.

<u>Source of satisfaction</u>		<u>Percent of mention</u>
i) Job security	...	44.7
ii) Opportunity for advancement	...	30.7
iii) Adequate salary	...	27.9
iv) Firing benefit plan	...	24.4
v) Being kept informed of status	...	19.2
vi) Enjoyable type of work	...	18.5
vii) Vocation practices	...	16.4
viii) Supervisor's personality	...	16.3
ix) Profit sharing plans	...	15.7
x) Physical working conditions	...	14.4

L.G. Lindahl's findings and Fortune Opinionaire findings are more or less the same as those of NICB survey.

Thomas W. Marrel gave the following factors as source of job satisfaction.

I. Personal Factor:-

i) Pay, ii) Age, iii) Time on job, iv) Intelligence.

II. Factors inherent in the job:-

i) Type of work
ii) Skill required
iii) Occupational status
iv) Geography
v) Size of the plant

III. Factors controllable by management:

i) Security
ii) Pay
iii) Firing benefits
iv) Opportunity for advancement
v) Working conditions
vi) Responsibility and supervision.

While Roa sees the job as a source of satisfaction of many

needs. To understand how a man functions in a job one must know what his needs are and how they are satisfied.

Roa accepts Maslow's concept of the hierarchy of needs and lists them in the following order:

- i) The psychological needs.
- ii) The safety needs
- iii) The need for belongingness and love.
- iv) The need for importance, respect, self esteem and independence.
- v) The need for information.
- vi) The need for understanding.
- vii) The need for beauty.
- viii) The need for self actualization.

Shaffer also studied job adjustment or satisfaction as related to need satisfaction. The 12 needs that were considered are:

- (a) Recognition and approbation.
- (b) Affection and interpersonal relationship.
- (c) Mastery and achievement.
- (d) Dominance
- (e) Social welfare
- (f) Self-expression.
- (g) Socio-economic status
- (h) Moral value scheme
- (i) Dependence
- (j) Creativity and challenge
- (k) Economic security
- (l) Independence

Most of the factors of job-satisfaction enumerated in the above works are common to most jobs which is clear from their frequency of mention in above lists. But it must be noted that

teachers constitute a special type of professional group whose sources of satisfaction may not totally be the same as those of factory workers or executives. Keeping this fact in view, it was decided to select from these lists only those factors that are most relevant for teaching job and add to them a few other factors after eliciting experts' opinion and going through research literature on teaching and teachers. In drawing up the list of the sources of satisfaction specially pertinent to the teaching job, Verma's Teacher Attitude Inventory, which measures teacher's attitudes towards such aspects of teaching as (i) Social status, (ii) Economic return, (iii) Associates, (iv) Chance of progress, (v) Variety, (vi) Relationship with superiors and pupils and (vii) Intellectual Challenge, and Work Value Inventory used by Dinesh Chandra which measures teachers preferences for work values in teaching such as: (i) Economic return, (ii) Social service, (iii) Prestige, (iv) Intellectual challenge, (v) Power and Authority, (vi) Independence of work, (vii) Chance of progress, (viii) Material handled, (ix) Adventure, (x) Associates, (xi) Surroundings and (xii) Variety, were also utilized.

The factors in the teaching job that serve as significant sources of satisfaction-dissatisfaction for teachers were thus selected to constitute the statements of initial draft of the proposed scale. They are given as under:

- i) General attitude of the society towards teachers and teaching.
- ii) The relationship with superiors.
- iii) Material rewards and security.
- iv) Nature of work itself.
- v) Freedom in planning and opportunity of self-expression and growth.
- vi) Teacher-teacher and teacher-pupil relationship.

The above list is comprehensive in that it covers almost all sources of teachers' satisfaction-dissatisfaction relevant to his job.

II. Initial draft of the scale:-

For the preliminary form of the scale, the investigator wrote in all 70 statements, several on each source of satisfaction. In writing the statements the criteria kept in mind included the following:

- (1) The statement should be simple and understandable.
- (2) The statement should be clear and unambiguous semantically so that it is interpreted uniformly by all respondents.
- (3) The statement should not be double barrelled. It should express one single idea or issue.
- (4) The statement should be relevant, i.e., there should be congruence between the statement and the definition of the concept of job adjustment as accepted in the study. The statements drawn up by the investigator were supplied together with the criteria to ten teacher experts of the faculty of education of investigator's own University for scrutiny. Eight statements failed to stand the scrutiny of the experts, thus leaving sixtytwo statements for the tryout form. Out of this total of 62 statements, 28 were positive and 34 negative statements.

III. Technique used in construction of the scale

Thurstone and Likert techniques are widely employed in construction of attitude scales. The advantage that Likert scale, which is summation type claims over Thurstone's equally appearing interval scale are that the former is easier to construct, that no preliminary judging group is necessary, that greater reliability is secured and that the scoring system can be better adapted to groups whose attitudes are to be measured. Despite this claim, however, the investigator found that both techniques have some limitations and neither of the two is completely free from criticism. The reason why he chose to use Likert method for the construction of job adjustment scale was that it is simple and less time consuming. Moreover, it does not involve judgements for scaling the statements. The investigator was also guided by the fact that Thurstone approach lacks good indices of the validity of items and requires weighting of responses on a priori basis and not on the basis of item analysis data. Many widely used attitude scales have followed Likert's technique.

Following this method, the collected statements, negative and positive, were randomly distributed in the form with space provided against each statement for response under any one of the five response categories from 'strongly agree' through 'neutral' to 'strongly disagree' depending upon the direction and intensity of the feeling of satisfaction of the respondent on a given statement.

Try Out Sample:

The initial form of the scale was administered to a random group of 150 teachers (108 male and 42 female) sampled from secondary schools of Aligarh, Bijnor, Bulandshahr and Meerut districts. The schools selected belong to different categories of management and range from good to poor in regard to the standard of the performance of their pupils. Other teacher characteristics such as age, experience, income and size of class were also randomly distributed among the members of the try out group. Thus the sample selected for try out constituted a cross section of secondary school teachers. Each respondent was asked to put a tick mark under the category 'strongly agree', 'agree', 'undecided', 'disagree', or 'strongly disagree' depending upon the degree of his agreement or disagreement with the given statement. They were further requested to indicate their reaction for each statement and not to leave out any.

Scoring - The responses were received on a five point scale. Each response, under the category 'strongly agree', was assigned a value of 4, under 'agree' a value of 3, under 'undecided' a value of 2, under 'disagree' a value of 1, and under 'strongly disagree' a value of 0. Total scores earned by an individual

were the summation of all values. For negative statements, the order of scoring was reversed.

Item Analysis - Item validity or consistency of an item with all other items of the test was found out by item analysis, the criterion being the total score on the scale itself. To achieve this end item-total correlations were computed using Pearson Product Moment method. The main purpose of the item analysis was to eliminate those items which correlate poorly with the total test implying thereby that they do not measure the same behaviour or phenomenon that is measured by the rest of the items of the test, hence they must be discarded. What should be the size of the coefficient of correlation that would separate poor from good items? In this regard, it was noticed by the investigator that most reputed attitude and interest inventories used 0.2 as the value of correlation and discarded items having less than this magnitude of correlation. Nunnally has suggested 0.15 as a value of correlation to retain an item.

Following this practice, all items that had a correlation less than 0.2 were removed from the final form of the job adjustment Inventory. Table 4.1 provides item total correlations of all the 62 items originally included in the draft form.

As would be seen in table 4.1, 14 items have a correlation of .2 or less with the total test. They have been starred. These items were removed from the final form. Nunnally suggests the use of reiterative process for eliminating the effect of

Table 4.1

Item total correlations of the 62 items of try
out form of the Job Adjustment Inventory

Item No.	r	Item No.	r	Item No.	r
1	.3702	22	.4984	43	.1685*
2	.4880	23	.4669	44	-.0238*
3	.4780	24	.2915	45	.3135
4	.4504	25	.2943	46	.2082
5	.3699	26	.4928	47	.2849
6	.5134	27	.0591*	48	.4077
7	.2985	28	.2897	49	.2888
8	.3433	29	.3778	50	.3658
9	.3129	30	.1404*	51	.2535
10	.3522	31	.2119	52	.3799
11	.2701	32	.2778	53	.3865
12	.3148	33	.1129*	54	.4383
13	.3851	34	.3495	55	.0142*
15	.5938	35	.1173*	56	.5148
14	.3441	36	-.1574*	57	.5463
16	.2264	37	.2704	58	.2729
17	.2649	38	.2283	59	.1153*
18	.3846	39	.2404	60	.2041
19	.3887	40	.369*	61	.1374*
20	.2888	41	.0405*	62	.1700*
21	.4336	42	.1409*		

discarded items on the item-total test correlations. Using this process, the scores of each subject, earned on the discarded items, were subtracted from his total score, thus getting revised scores on the remaining 48 items. This process had a favourable effect on the item total correlations too by increasing them a little more. Increase in item validities further enhanced the fidelity and consistency of job adjustment scale.

Before using the scale for the main study, it was necessary to collect empirical evidence about its reliability and validity. The method used and the results obtained in establishing these indices are described below:

Reliability - The revised scores of 150 teachers were used for computing reliability-coefficient of the job adjustment scale. There are several methods of finding out reliability of psychological tests each of which yields a different type of coefficient. The present job adjustment scale was designed to possess an adequate degree of consistency. Since coefficient of consistency is indicated by two methods of reliability namely split half method and Kuder-Richardson method the investigator chose the latter one for establishing reliability of his scale. The split half method spuriously attenuates correlation and requires the use of S.B. formula for correcting the attenuation. The reliability data and the results are given in table 4.2

Table 4.2

SCORES OF 150 TEACHERS ON JOB ADJUSTMENT INVENTORY AND RESULTANT
RELIABILITY COEFFICIENT

S.No.	Scores	S.No.	Scores	S.No.	Scores	S.No.	Scores	S.No.	Scores	S.No.	Scores
1	87	26	110	51	120	76	98	101	91	116	120
2	81	27	115	52	110	77	106	102	80	127	110
3	133	28	83	53	102	78	90	103	101	128	112
4	67	29	103	54	95	79	138	104	92	129	113
5	106	30	100	55	96	80	112	105	121	130	101
6	103	31	95	56	103	81	97	106	122	131	111
7	98	32	92	57	103	82	90	107	138	132	100
8	106	33	104	58	97	83	109	108	126	133	108
9	101	34	106	59	92	84	97	109	60	134	112
10	94	35	125	60	81	85	110	110	94	135	95
11	111	36	110	61	89	86	73	111	114	136	91
12	107	37	99	62	103	87	66	112	139	137	100
13	125	38	121	63	90	88	125	113	123	138	111
14	95	39	102	64	100	89	132	114	71	139	93
15	117	40	132	65	89	90	116	115	139	140	91
16	96	41	119	66	69	91	90	116	97	141	121
17	106	42	71	67	101	92	115	117	123	142	141
18	126	43	106	68	99	93	102	118	119	143	100
19	121	44	70	69	88	94	126	119	121	144	110
20	90	45	96	70	71	95	103	120	99	145	138
21	98	46	91	71	93	96	111	121	119	146	92
22	103	47	73	72	90	97	110	122	113	147	106
23	85	48	123	73	70	98	69	123	102	148	113
24	90	49	88	74	102	99	107	124	118	149	94
25	77	50	102	75	85	100	117	125	95	150	111

The calculations were based on the formula given below:

$$= \frac{k}{k-1} \left(1 - \frac{n \sum Q^2 - \sum T^2}{n \sum X^2 - (\sum x)^2} \right)$$

in which

k - is the number of items = 48

n - is the number of teachers = 150

$\sum Q^2$ - is the sum of squares of k times n individual statement scores = 44064.0

$\sum T^2$ - is the sum of the squares of the k statement total score = 5300130.0

$\sum X^2$ - is the sum of the squares of the n teacher total score = 1634076.0

$\sum X$ - is the sum of the n teacher total score = 15476.0

The reliability of the adjustment inventory computed by the above formula came to be .783. which is moderately high.

Validity - Validity of instrument on which responses are made in terms of self report can be done by correlating them with another test which measures the same behaviour and whose validity has already been established. In case of non availability of such a comparable measure, there is another way to validate them.

The groups of individuals one of which is known to possess high degree of that behaviour and another known to possess low degree of that behaviour, are selected. If the test sought to be validated discriminates between them,

it is considered as valid. Either of these methods could be used to validate the present job adjustment scale.

Since no valid comparable measure was available latter technique was employed in validating this scale.

Following this technique the investigator approached principals of the five schools out of these in which the job adjustment scale was administered to the teachers. These principals were requested to give their judgement regarding the degree of job adjustment felt by the teachers in their respective schools. Then from each school five teachers judged as highly adjusted and five others judged as poorly adjusted were selected. In this way 25 teachers constituted group of highly adjusted teachers and other 25 constituted group of poorly adjusted teachers.

The job adjustment scores of these two groups were compared through t-test. These scores and resultant t are given in tables 4.3 and 4.4

The value of t was found significant at .05 level, which clearly shows that the job adjustment scale developed by the investigator is sufficiently valid for use in the present study.

The indices of reliability and validity as given above provide an evidence that the scale is a sound and efficient measure of Teachers' job adjustment.

Table 4.3

Scores of Highly adjusted and Poorly adjusted
Teachers on Job Adjustment Scale

HIGHLY ADJUSTED				POORLY ADJUSTED			
S. No.	Scores	S. No.	Scores	S. No.	Scores	S. No.	Scores
1	81	13	95	1	89	13	90
2	90	14	110	2	71	14	69
3	100	15	97	3	70	15	106
4	67	16	110	4	102	16	90
5	101	17	121	5	85	17	90
6	99	18	126	6	109	18	83
7	88	19	119	7	66	19	98
8	90	20	96	8	92	20	100
9	73	21	91	9	102	21	102
10	115	22	103	10	102	22	70
11	116	23	111	11	90	23	67
12	103	24	106	12	69	24	97
		25	139			25	71
ΣX		2547				2180	
\bar{X}		101.9				87.2	

Table 4.4

t-Value between Mean scores of Highly adjusted and
poorly adjusted teachers on Job Adjustment Scale

t-Value	Degree of freedom(df)	Level of significance
3.3946	48	.05

Time Limit - There is no fixed time limit but the respondents are expected to respond to all items of the scale in about 10 to 15 minutes.

Directions - The directions are printed on the top page of the scale and are as under:

Read each statement and decide how you feel about it. Then put a tick mark (/) under any one of the 5 response categories against the given statement in the following manner:

- (1) In the column "strongly agree", if you agree with the statement strongly.
- (2) In the column "agree", if you just agree with the statement.
- (3) In the column "undecided", if you are unable to make up your opinion about the statement.
- (4) In the column "disagree", if you just disagree with the statement.
- (5) In the column "strongly disagree", if you disagree with the statement strongly.

B. MODIFICATION OF FLANDERS' INTERACTION ANALYSIS CATEGORY SYSTEM

Since research on teacher effectiveness focussed on interactive behaviour of teacher and pupils, a variety of systems designed to analyse teacher-pupil interaction in the classroom have been developed. Notable among them are those of Anderson (1939), Withall (1949), Huges et al. (1959a), Medley and Medzel (1958), Smith (1960), Amidon and Flanders (1963). Out of these many systems Flanders Interaction Analysis Category system enjoys much popularity and is widely employed in studies of classroom interaction in foreign countries as well as in India. The reason why Flanders system is preferred over others is not that it is a perfect system but, perhaps, because its categories are restricted to only verbal behaviour and are relatively less in number, i.e., ten only. Thus the user does not find it difficult to memorise the categories and experiences no much mental strain because he is required to observe only verbal interaction. Moreover, its author provides a clear and unambiguous statement of ground rules that govern codification of behaviour in various categories. This facilitates much the task of the observer and can be referred to him whenever he is in doubt about the category of any behavioural event.

- 4 Asks questions: Asking a question about content or procedure, based on teacher ideas, with the intent that a pupil will answer.

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- 5 Lecturing: Giving facts or opinions about content or procedures; expressing his own ideas, giving his own explanation, or citing an authority other than a pupil.
- 6 Giving directions: Directions, commands, or orders to which a pupil is expected to comply.
- 7 Criticizing or Justifying authority : statements intended to change pupil behaviour from non-acceptable to acceptable patterns; hawling some one out; stating why the teacher is doing what he is doing; extreme self-reference;

RESPONSE

- 8 Pupil talk-response: Talk by pupils in response to teacher. Teacher initiates the contact or solicits pupil statement or structures the situation. Freedom to express own ideas is limited.

INITIATION

- 9 Pupil talk initiation : Talk by pupils which they initiate; expressing own ideas; initiating a new topic; freedom to develop opinions and a line of thought, like asking thoughtful questions; going beyond the existing structure.

- 10 Silence or confusion: Pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.
-

Limitations of the System

As mentioned in the beginning of this chapter, several researchers claim the superiority of Flanders technique over other tools because the tool gives an objective data about teacher behaviour and provides objective corrective feedback which helps in changing teachers' behaviour and increasing his efficiency. Excellent performance of this tool notwithstanding, investigators like Amidon and Simon (1965), Amidon and Hunter (1966) and Hough (1966), etc. have pointed out several limitations of this system such as those given below:

- (1) Since the tool is concerned with coding and analysing only verbal interaction between teacher and pupil, non-verbal gestures are not accounted for. The tool does not reflect a complete picture of classroom interaction.
- (2) Flanders has emphasized the recording of only spontaneous interaction for FIAC and admits that it is inappropriate if the communication is discontinuous. Experience shows that communication in the classroom may not be as spontaneous in all situations.
- (3) In FIAC all types of questioning, whether the questions are thought provoking or narrow, are classified under one category, i.e., category 4, "asks questions".

- (4) The FIAC has only one category, viz., Cat. 5 to indicate teachers' substantive talk. It does not distinguish between explanation given by the teacher and reading from the books by the teacher. All types of teacher's content-related talk fall under this category.
- (5) The FIAC has three categories (Cat. 1, 2 and 3) for reacting positively to pupils as against only one category (Cat. 7) for reacting negatively. This clearly indicates that rejection or criticism is not covered in all its aspects.
- (6) The FIAC has only one category, viz., Cat. 10, for silence. It does not discriminate 'pause' from 'noise' and 'confusion'.

From the above discussion it is obvious that different shades of an activity grouped in one composite category, are not clearly defined and a need to split categories into their various components is desirable.

On close examination of FIACs, the investigator has also found that identification of direct and indirect teachers on the basis of I/D and revised i/d ratios is also not wholly free from certain limitations. For example, the I/D ratio is found by the formula $I/D = \frac{\text{Cat. } 1+2+3+4}{\text{Cat. } 5+6+7}$. This formula yields I/D ratio which is influenced by the subject being taught. The nature and contents of science and Maths. differ from languages. When a teacher is teaching Science, he is offered ample opportunity to exhibit indirect behaviour

because reading from the text book is to a great extent reduced in these subjects. This results in diminishing number of events of Cat. 5 in the denominator. Furthermore, specially in Maths. Cat. 4 is accelerated only by virtue of the subject taught, which increases the numerator a lot. Secondly, in Science and Maths., the teacher questions are responded by the students either by recall responses (Cat. 8) or by creative responses (Cat. 9), which in turn leads to teacher acceptance (Cat. 3) or encouragement (cat. 3) often more than direction and rejection (Cat. 6 and Cat. 7). This situation increases the numerator and diminishes the denominator, thus tilting the balance in favour of indirectness.

On the other hand if the same teacher is assigned to teach languages or social studies, he ought to be found a direct teacher due to incidence of Cat. 5 (lecture) in denominator, as the syllabi in higher secondary schools are content oriented and no material aid is provided even in the subjects like Geography. Hence 50 to 90 per cent of interaction goes in favour of teacher talk (Cat. 5) increasing the denominator a lot. Consequently, the teacher is found to be a direct one.

Now take category 7 (rejection). This category is placed in the denominator because by criticising and rejecting student's response, a teacher is believed to restrict the freedom of initiation of a student and exhibits a defensive

trend and controlling tendency, all indications of direct behaviour. It is due to this belief that rejection is placed in denominator for calculation of I/D ratio. But the investigator has found that some times, even those teachers who are indirect in all categories of behaviours reject unacceptable or incorrect answers. However, there is a vast difference between direct and indirect teachers in dealing with the case of rejection and we have to differentiate between the reactions of the two on the basis of psychological impact that they leave on the minds of children. If rejection is accompanied by fret and criticism, it certainly would act to inhibit a child's expressive urge and have a controlling effect on him. But if it is accompanied by sympathetically given corrective feed back, it would have motivational effect on the thinking process of the child by supplying him cue for further thought. It would act like removing the obstacle blocking the path of stream to allow the water to flow more smoothly. So, rejection does not always show a controlling tendency on the part of the teacher. Sometimes it acts as a supportive behaviour when so used by him. How a teacher uses it or what the tone and tenor of the teacher using this category is, will ultimately decide whether rejection is placed in the numerator, denominator or left out. Similarly the traditional method of calculating small I/D ratio which is $\text{Cat. } 1+2+3/\text{Cat. } 6+7$, does not appear much appropriate to identify direct and indirect teachers. The first objection to

this ratio is that it covers a very small portion of the interaction. Secondly, it also has Cat. 7 in denominator which is questionable as discussed earlier.

Moreover, observation of the teachers of various types in several districts of U.P. for many months revealed that its application in many situations is misleading. For instance, if a teacher in a language lesson uses the following pattern of behaviour. Reads passage for 2 minutes, asks meaning of a word, pupil gives correct meaning, teacher accepts it, asks meaning of another word, pupil gives correct response, the teacher again accepts it, then he reads a larger passage for $2\frac{1}{2}$ minutes and explains its central idea for another two minutes. This interaction will be categorised as under:

Cat. 5, 40 times; Cat. 4, 1 time; Cat. 8, 1 time; Cat. 3, 1 time; Cat. 4, 1 time; Cat. 8, 1 time; cat. 3, 1 time; Cat. 5, 50 times; Cat. 5, 40 times.

Now, when one calculates I/D ratio the result would be $I/D = \frac{0+0+2}{0} = 2$ showing thereby that the teacher is highly indirect though the teacher exhibited direct behaviour for most of the time.

Subscripting the Main Categories of FIACs:

Keeping in view the above mentioned drawbacks in I/D and I/d ratios, a few categories composed of varying shades of activities are split by the investigator in the present study

into sub-categories so as to microscopically examine the interaction and to identify direct and indirect teachers more correctly. The categories that have been subscripted are:

(a) Cat. 4 - questioning is split into Cat. 4a and Cat. 4b.

Cat. 4a : This category stands for narrow questions.

Cat. 4b : This category stands for thought provoking questions.

Narrow questions provide little opportunity to students to participate and initiate in the interaction while thought provoking questions provide better opportunity for students to participate in discussion with initiation.

(b) Cat. 5 - Lecturing is split into cat. 5a and Cat. 5b.

Cat. 5a : This category implies reading from book by the teacher. It might be a mathematics question, a numerical problem of science, a book of any language or data or quotations from social science books. Both direct and indirect teachers use this category equally. The category does not specify the activity of a direct or indirect teacher. So it is taken as a neutral category.

Cat. 5b : This category implies explanations given by the teacher, i.e., initiation is taken by the teacher deliberately. During this time,

students are passive listeners and their freedom of response and initiation is restricted. Thus the use of this category is presumed to exhibit direct behaviour.

(c) Category 7 is split into Cat. 7_s, Cat. 7_c and Cat. 7_f.

Cat. 7_s: This category implies simple non-loaded rejection of teacher to the wrong response of students without any comment. This category does not specify the behaviour of teacher whether it is direct or indirect. So it seems to be a neutral category.

Cat. 7_c: This category implies rejection by teacher of the wrong response of the student with fret and criticism. This trend exhibits the direct behaviour of teacher.

Cat. 7_f: Implies rejection by the teacher of the wrong response of a student gently with corrective feedback. This trend seems to exhibit the indirect behaviour of the teacher.

(d) Cat. 10 is split into Cat. 10a and Cat. 10b.

Cat. 10a: Stands for productive silence. Silence that occurs when students are engaged in copying from black-board, observing demonstration given by the teacher etc. or during teachers' activity of the supervision of the class.

Cat. 10b: Stands for non-productive silence. This includes confusion created by more than one students talking in chorus or when students are silent while the teacher is engaged in

any activity other than instruction. With the help of these sub-splitted categories, the ten category system given by Flanders has been changed into a fifteen category system. Each category is clearly understandable and is thus easy to remember and code. The system provides microscopic picture of the pattern of classroom interaction and can be more properly interpreted. Different parts of the matrix indicate different patterns of classroom interaction. Experience has shown that 15 category system is not difficult for a trained recorder to use. In devising the modified I_z/D_z ratio those categories which are indicative of direct behaviour as explained above are kept in denominator and those which are indicative of indirect behaviour are kept in numerator. The ratio is as follows:

$$I_z/D_z = \frac{\text{Cat. } 1+2+3+4a+4b+7f}{\text{Cat. } 5b+6+7c}$$

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Chapter 5

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter contains the presentation, analysis and interpretation of data. To begin with, classroom verbal behaviour of secondary school teachers, which is the dependent variable in the study will be analysed in order to understand what they do in the classroom as they interact with the pupils. The master matrix of the sample (Table 5.0) provides an overall estimate of teacher pupil interaction. It contains total events in each of the categories. The accompanying tables 5.1 and 5.2 contain percent of occurrence of behaviour in each category and in each major segment such as teacher talk, pupil talk and silence. This analysis permits us to describe the situational settings for the interaction represented in these matrices.

Section A of this chapter deals with the general and special features of teacher behaviour and comparison of behaviours of indirect, moderately direct and direct groups of teachers.

Table 5.0

Master Matrix of 200 Teachers in Terms of Frequencies of Events
in Each Category

Cat.	1	2	3	4a	4b	5a	5b	6	7a	7c	7f	8	9	10a	10b
1	13	0	1	1	0	0	0	3	0	0	0	5	0	4	0
2	1	113	910	924	65	73	725	380	18	23	10	756	125	373	6
3	0	14	1618	279	32	65	389	185	0	5	3	35	66	198	5
4a	1	13	9	1443	13	28	314	413	15	89	13	7915	49	2377	9
4b	0	0	1	12	281	3	15	41	6	6	0	412	1	269	3
5a	0	2	2	424	18	8114	3188	147	5	5	1	33	230	761	21
5b	1	28	4	2897	122	2629	48302	842	7	71	9	383	1857	5301	85
6	0	43	51	863	76	264	869	696	14	96	12	856	191	1350	20
7a	0	2	1	191	20	14	82	60	90	7	7	119	25	64	3
7c	0	0	2	232	12	19	112	132	7	473	16	130	30	269	3
7f	0	9	4	76	3	6	93	57	4	11	135	650	9	42	2
8	7	3891	178	2458	179	233	1553	1083	418	394	845	9019	138	1008	19
9	1	308	40	303	10	314	1881	273	66	45	23	72	363	565	11
10a	3	78	73	2572	215	1149	4928	1071	34	212	27	1025	1178	17952	53
10b	0	1	0	26	4	35	87	23	1	0	0	13	13	37	1083
TOTAL	27	4502	2894	12701	1050	12951	62538	5406	685	1437	1101	21423	4275	30570	1323

Table 5.1

PERCENTAGES OF VARIOUS CATEGORIES OF VERBAL BEHAVIOUR OF TEACHERS

Variable	Description	PERCENTAGES		
		Present Study	Buch and Santhanam	Rao and Pareek
<u>Teacher</u>				
Cat. 1	Accepts feelings	0.016	.01	.026
Cat. 2	Praises, encourages	2.763	0.344	1.927
Cat. 3	Accepts and expands pupil ideas	1.776	3.574	2.567
Cat. 4a	Puts narrow questions	7.797	8.442	8.849
Cat. 4b	Puts thought provoking questions	0.644		
Cat. 5a	Reads from the books	7.951	46.345	34.013
Cat. 5b	Lectures	38.394		
Cat. 6	Gives commands and directions	3.318	2.315	5.527
Cat. 7a	Rejects pupil ideas without comments	0.420		
Cat. 7c	Rejects pupil ideas with criticism	0.882	1.978	1.774
Cat. 7p	Rejects pupil ideas with corrective feedback	0.675		
<u>Pupils</u>				
Cat. 8	Respond to teacher	13.152	10.071	17.792
Cat. 9	Initiate talk	2.624	6.418	13.051
<u>Silence</u>				
Cat.10a	Productive silence	18.768	7.274	14.424
Cat.10b	Non-productive silence	0.812	19.680	

Table 5.2

SUMMARY OF VERBAL BEHAVIOUR OF TEACHERS

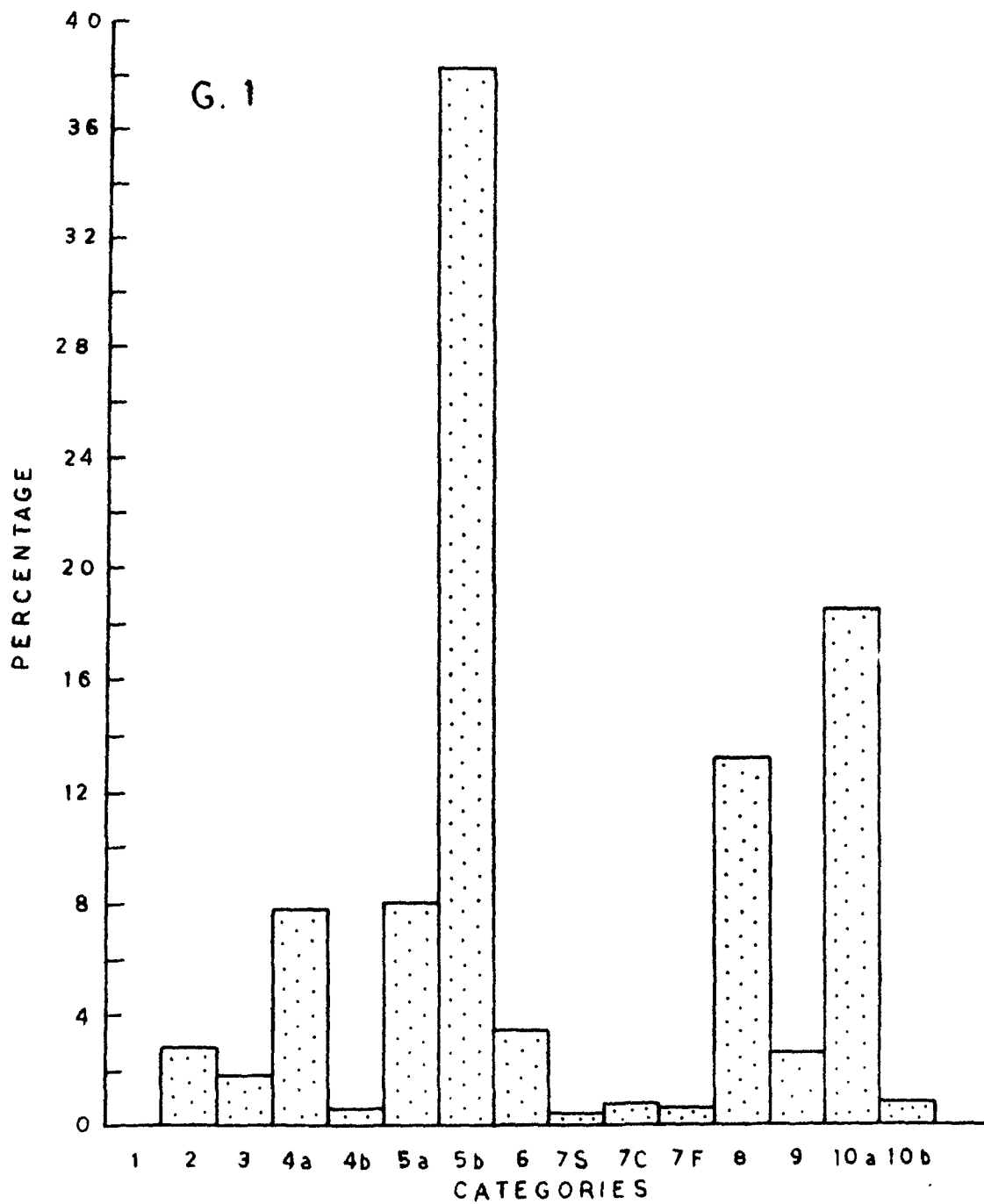
Variables	Present study	Flanders' norms	Buch and Santhanam study
Teacher talk	64.642	68.00	62.75
Pupil talk	15.777	20.00	25.65
Silence*	19.580	12.00	12.60

* Includes productive silence 18.768 % and non-productive silence and confusion 0.812 %.

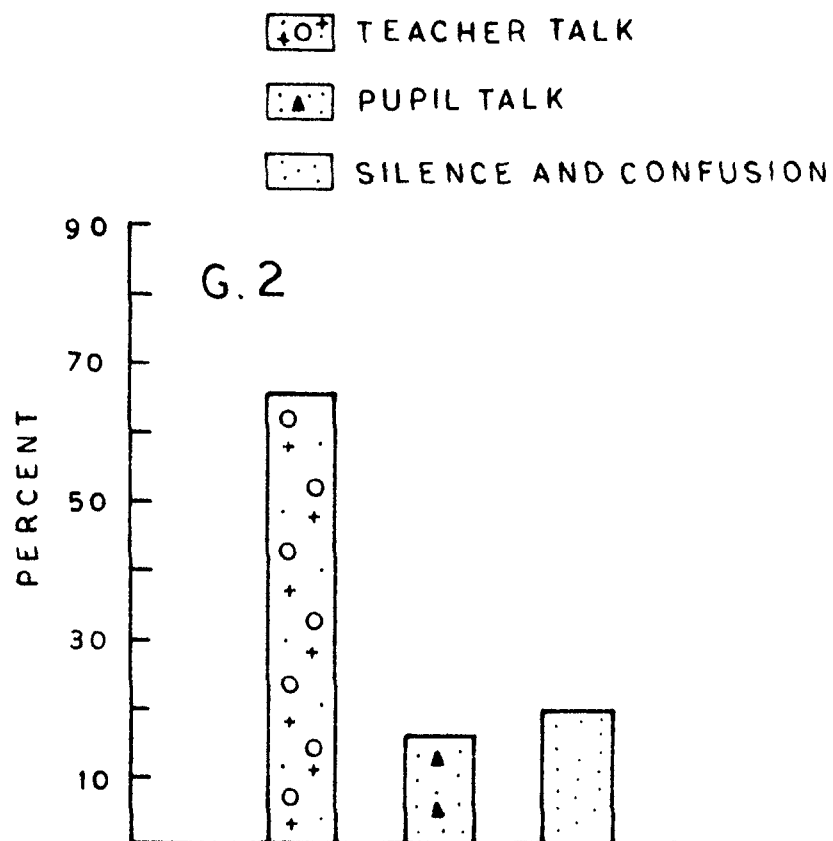
SECTION A

General and Special Features of Teacher Behaviour

A perusal of tables 5.0, 5.1 and 5.2 and graphs G1 and G2 exhibit the following features of classroom interaction. Cat. 1 behaviour (accepting the feelings of pupils) was found to be 0.016 per cent. The teacher accepts feelings when he says he understands how children feel and that he will not punish them for their feelings. Teacher statements in this category are rare because the rule requires that the teacher literally names or otherwise identifies the emotion or feeling. In India both teachers and pupils, tend to suppress both positive and negative emotional reactions, and consider the class to be a place where they are more concerned with ideas



Percentage of teacher behaviour in categories



Summary of verbal behaviour
of teachers

rather than feelings. The per cent occurrence of cat. 2 behaviour (praising and encouraging the pupils including frequent jokes that release tension) was found to be 2.763 per cent. Mostly, small statements like 'yes', 'um hum', 'right', 'good' etc., would have been used as the frequency of occurrence in (2-2) cell is quite low, i.e., 133 and a major portion of praise is after student talk, as is evident from the higher frequencies in cells (8-2) and (9-2) which are 3891 and 308 respectively. However, 1.776 per cent of total interaction in classroom was devoted to cat. 3, accepting, clarifying, building or developing pupil ideas. Somewhat lesser occurrence of this category than reported in other studies reveals that teachers in general make use of the ideas of pupils infrequently. A few teachers used this category after praising pupils (as is evident from the frequency of 910 in (2-3) cell of the matrix) and remained in the same category for a considerably long time. The highest frequency of 1618 in cell (3-3) provides evidence to support this claim. Teacher behaviour included in the first three categories generates a permissive social emotional climate. Of all the teaching learning events in the classroom, 4.557 per cent belong to these categories. The next activity is questioning which is represented by cat. 4. Per cent occurrence of behaviour in this category was found to be 8.442. Out of 8.442 per cent of total questioning behaviour 7.797 per cent falls in Cat. 4a

(narrow questions) and 0.644 per cent in cat. 4 b (thought provoking or open type of questions). This situation clearly brings out the fact that teachers make frequent use of narrow questions about content and procedure which are based on their own ideas, with the intent that a pupil will answer. The use of thought provoking questions is quite low.

Lecturing behaviour of teacher (cat. 5) as defined by Flanders includes reading from the books by the teacher and giving explanations, facts, etc. Cat. 5a, reading from the book, was found to occur to the tune of 7.951 per cent, whereas ^{i.e.,} the percentage of the cat. 5b, / lecturing that is used to give information, facts, opinions, ideas and explanations about content or procedure to the students, is 38.394. This implies that for more than 1/3 of the total time of interaction, teacher is engaged in giving information and explanations about content and procedure to the students. The sum total of the per cent occurrence of cat. 5a and 5b equals to 46.345 per cent.

Cat. 6 stands for direction and commands given to students by the teacher. Per cent occurrence of behaviour in this category is 3.318. In this connection it is note worthy that most of the directions did not last for more than three seconds as is indicated by the low frequency of 696 in the cell (6-6). This reveals that directions would have been of the nature "open your book on page", "read the passage", "sit down" etc. related to classroom management.

Cat. 7 is concerned with the rejection of students' response by the teacher. Variation in the expression of behaviour in this category also contributes to production of climates from 'extreme hostile' to the 'most permissive' one. Percent occurrence of behaviour in categories 7_s , 7_f and 7_c is found to be 0.420, 0.675 and 0.882 respectively showing thereby a trend of gradual increase from 7_s to 7_f and to 7_c . Teachers of the study rejected wrong responses of pupils with criticism most and in a simple manner without any comment least. Percent occurrence of behaviour in the composite cat. 7 is 1.978.

The summation of categories 6, 7_c and 7_s gives information about teacher's controlling behaviour. It is, however, interesting to note that teachers' controlling behaviour, is more or less the same as their motivational behaviour (Cat. 1+2+3). The former is 4.657 per cent while the latter is 4.621 per cent. The Occurrence of Cat. 8 behaviour constitutes the third largest percentage which shows that student talk in response to teacher questions is one of the major patterns of classroom interaction. Per cent occurrence of cat. 8 behaviour was found to be 13.152.

Occurrence of another important category 9 behaviour which represents student talk (initiation) was found to be 2.624 per cent. Though the percent occurrence of behaviour in this category is considerably higher than reported in several other

studies, yet in general student participation in classroom discourse was responsive in nature and not spontaneous. Frequencies in cells (8-8) and (9-9) are 9,019 and 363 respectively which suggest that pupils stayed in category 8 for more than three seconds at a time (by giving lengthy answers) more often than they did so in case of cat. 9 behaviour. This fact also shows that pupil participation was qualitatively of a low level. One reason of this higher responsive talk on the part of pupils may be the use of narrow questions by the teacher which do not offer opportunity of initiation to the students. The other reason for low initiation would have been the nature of praise which was quite brief as is discussed earlier. Praise statements with reason for the same, which would have improved the frequency of occurrence of initiation behaviour, would not have been used by the teacher.

The percent of total interaction time consumed by productive silence is only second to that of lecturing. It is 18.768 per cent. It reveals that considerable time was utilised by the teacher in black-board work, supervision and in giving demonstrations etc. The frequency of 17,952 in cell (10a-10a) shows that work related silence very often continued for more than three seconds at a time. An interesting feature of the interaction is the occurrence of higher frequencies in the cells (4a-10a) and (10a-8) which are 2,377 and 1,025 respectively. They reveal that teacher gave considerable time to students to

respond and initiate after putting questions.

Less than one per cent of the total interaction time, i.e., 0.812 was consumed in non-productive silence. Total silence and confusion come out to be 19.58 per cent of the total interaction time. The analysis of classroom interaction in terms of total teacher talk (cat. 1 through 7) pupil talk (cat. 8+9) and silence (Cat. 10) shows that teachers talked for 64.642 per cent or nearly $\frac{2}{3}$ of the total interaction time, pupil talked for 15.777 per cent or a little more than $\frac{1}{6}$ of the total interaction time and none talked for 19.58 per cent of the total interaction time. Results of two other studies are also given in the same table 5.2 for instant comparison. The comparison shows that in nearly all categories of teacher behaviour there is a good deal of agreement between the findings of this study and those of the cited studies.

Special Features of Teacher Behaviour

The knowledge of percentages of occurrence of behaviour in various categories, teacher talk and pupil talk etc. becomes more meaningful when they are interpreted with some index of the quality of interaction. So, simple ratios were calculated to provide such information in terms of teacher initiation, teacher response, pupil initiation and pupil response, etc., because reciprocal relationship between teacher statements and pupil statements was expected to exist.

In table 5.3 percentages of various ratios of teacher and pupil behaviour have been reported. The findings of other studies in this regard are also given in the last two columns of the table for instant comparison of findings of this study with those of other researches.

A study of table 5.3 and graph G_3 shows that I/D ratio was found to be 0.251 which reveals that teachers comprising the sample generally exert direct influence. Out of every four statements they spoke, only one was indirect statement. I_2/D_2 is yet another ratio achieved by slight modification of Flanders' I/D ratio by the investigator. Its rationale has been provided in Chapter III. The magnitude of I_2/D_2 was 0.321. According to this ratio teacher spoke one indirect statement for every three direct statements.

The revised i/d ratio also falls in favour of controlling as against motivational behaviour.

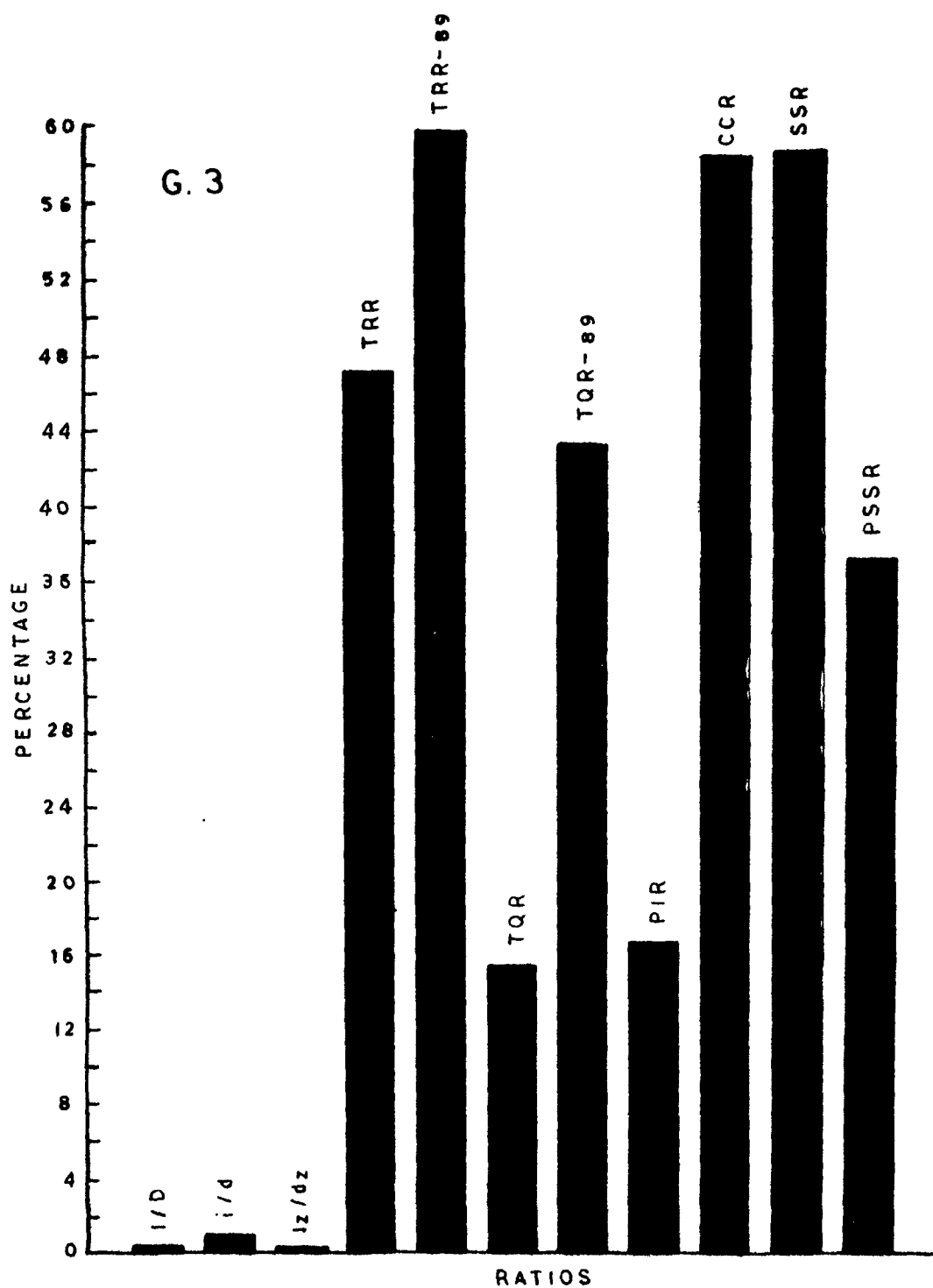
Teacher response ratio (TRR) which is a measure of the proportion of teacher's motivational behaviour in the aggregate of his motivational and controlling behaviour was found to be 46.243 per cent and his controlling behaviour to be 33.76 per cent. These figures clearly indicate that the teachers might have been quite often faced with problems of discipline and control which they tried to overcome by issuing statements of direction, rejection and justification of authority. Notwithstanding this, they also used, though less often, praise and

Table 5.3

**PERCENT OF VARIOUS RATIOS OF VERBAL BEHAVIOUR
OF TEACHERS**

(For Ratios see Appendix 7)

Variables	Symbols	PERCENTAGES		
		Present study	Flanders' norms (1970)	Such and Sunthanam (1971)
Indirect influence to direct influence ratio	I/D	00.251		
Revised indirect to direct influence ratio	I/d	00.860		
Modified indirect influence to direct influence ratio	1 /D.	00.321		
Teacher response ratio	TRR	46.243	42.0	61.6
Instantaneous teacher response ratio	TRR-89	58.439	60.0	79.0
Teacher question ratio	TQR	15.409	26.0	19.7
Instantaneous teacher question ratio	TQR-89	42.562	44.0	35.5
Pupil initiation ratio	PIR	16.635	34.0	21.8
Content cross ratio	CCR	54.787	55.0	46.5
Steady state ratio	SSR	55.067	50.0	43.0
Pupil steady state ratio	PSSR	36.508	40.0	-



Percentage of various ratio of verbal behaviour of teachers

approval of pupil ideas to encourage them.

TRR-89 indicates how a teacher reacts immediately after pupils have stopped talking. Teachers of the sample followed it 58.439 per cent of time by facilitative behaviour as against 41.57 per cent of time by restrictive behaviour. It indicates that teacher's tendency to praise or integrate pupil ideas into the fabric of discussion had a slight edge over his tendency to direct and discourage them.

Questions were found to form 15.409 per cent of the total behaviour of questioning and lecturing (TQR). The ratio measures teacher's tendency to use questions when guiding content oriented part of classroom discussion. The low percentage of behaviour in this category reveals that teachers generally adopted lecturing as a tool to instruct the young ones and put questions on fewer occasions. The same result appears when occurrence of questioning and lecture on termination of pupil talk is analysed. The percent of questioning in the total of the two categories of behaviour occurring at the termination of pupil talk is 42.562.

PIR is an index of initiation in total talk by the pupils. The ratio was found to be as low as 16.635 per cent. Conversely, 83.37 per cent of pupil talk was in response to teachers' questions and commands. Studies of Buch and Santhanam (1971) and Verma and Ansari (1975) have reported this ratio to be 21.8 per cent and 10.972 per cent respectively and normative

expectation of Flanders put it at 34.0 per cent. There can be several reasons of the variation in results obtained in different studies. The type of questions, off target and irrelevant remarks and leads by pupils and failure to create ideas when they have chance to do so all determine PIR.

In the present study PSSR of 36.508 per cent, i.e., sustained pupil talk in total pupil talk nears normative expectations of Flanders which is 40.0 per cent. This reveals that pupils talked for more than three seconds at a time for more than 1/3rd of the total time of their talk.

The tallies for productive silence occurring between question and response represented in cells (4a-10a) and (10a-8) which are 2,377 and 1,025 suggest that pupils were given time on many occasions by the teacher to think and organise their answers before giving them out.

Emphasis on content was calculated by the ratio CCR. The CCR in this study was found to be 54.787 per cent. It reveals that a little more than half of the interaction time was devoted to discussion of subject matter. The rest may have been spent in handling managerial, control and disciplinary problems and in pupil arousal by making use of motivational techniques.

The extent to which teacher and pupil behaviour shifts from one category to another is inversely proportional to SSR. The higher the ratio the lesser rapid the interchange between the categories. This ratio was found to be 55.067 per cent.

It is very close to norm expectation given by Flanders which is 52.0 per cent and somewhat higher than reported by Buch and Santhanam which is 43.0 per cent and indicates that teachers of this study were somewhat less flexible in their behaviour as compared to normative expectations.

Identification and Comparison of Indirect, Moderately Direct and Direct Teachers.

a) Identification of Teachers

The teachers included in the study were identified as indirect, moderately direct and direct on the basis of modified I_z/D_z ratio developed by the investigator and discussed in the previous chapter. I_z/D_z ratios for the sample are given in table 5.4.

The I_z/D_z ratios of 200 teachers initially sampled for the study are contained in the table 5.4. They depict the ratio of indirect to direct influence of the teacher. The range of I_z/D_z values extends from 0 to 7.111. It is obvious that a I_z/D_z of one or greater indicates dominance of indirect influence and a I_z/D_z of less than one indicates dominance of direct influence. For purpose of studying the relationship of the variables included in the investigation with teacher behaviour, all the teachers were classified in three categories. Those having I_z/D_z ratios of one or more were categorized as indirect, those having I_z/D_z ratios between 0.25 and 0.99 as moderately direct and those

Table 5.4

 l_z/D_z RATIOS FOR THE SAMPLE

N = 200

S.No.	l_z/D_z	S.No.	l_z/D_z	S.No.	l_z/D_z	S.No.	l_z/D_z	S.No.	l_z/D_z
1	3.622	21	0.881	41	0.785	61	0.409	81	0.300
2	3.088	22	0.929	42	0.916	62	0.487	82	0.300
3	2.392	23	0.783	43	0.642	63	0.429	83	0.299
4	2.000	24	0.758	44	0.552	64	0.428	84	0.441
5	1.562	25	1.308	45	0.549	65	0.407	85	0.455
6	7.111	26	1.004	46	0.543	66	0.554	86	0.280
7	1.538	27	0.905	47	0.550	67	0.626	87	0.363
8	1.549	28	0.747	48	0.519	68	0.378	88	0.413
9	2.482	29	1.020	49	0.483	69	0.375	89	0.297
10	1.415	30	1.593	50	0.877	70	0.436	90	0.431
11	1.415	31	0.729	51	0.715	71	0.375	91	0.316
12	2.208	32	0.731	52	0.474	72	0.354	92	0.576
13	1.398	33	1.408	53	0.661	73	0.873	93	0.301
14	1.308	34	0.719	54	0.541	74	0.418	94	0.268
15	1.073	35	0.614	55	0.510	75	0.633	95	0.262
16	1.074	36	1.597	56	0.480	76	0.330	96	0.683
17	0.968	37	0.595	57	0.450	77	0.598	97	0.243
18	1.224	38	0.683	58	0.494	78	0.374	98	0.355
19	1.126	39	0.763	59	0.444	79	0.386	99	0.327
20	0.968	40	1.296	60	0.378	80	0.290	100	0.253

169

(Contd.)

Table 5.4 (Contd.)

S.No.	l_z/D_z	S.No.	l_z/D_z	S.No.	l_z/D_z	S.No.	l_z/D_z	S.No.	l_z/D_z
101	0.276	121	0.193	141	0.110	161	0.120	181	0.098
102	0.570	122	0.163	142	0.102	162	0.090	182	0.047
103	0.281	123	0.360	143	0.131	163	0.066	183	0.087
104	0.238	124	0.176	144	0.120	164	0.169	184	0.039
105	0.237	125	0.161	145	0.109	165	0.148	185	0.103
106	0.227	126	0.170	146	0.147	166	0.096	186	0.073
107	0.236	127	0.176	147	0.183	167	0.142	187	0.043
108	0.234	128	0.151	148	0.126	168	0.079	188	0.025
109	0.224	129	0.150	149	0.104	169	0.109	189	0.033
110	0.369	130	0.340	150	0.107	170	0.060	190	0.044
111	0.335	131	0.363	151	0.107	171	0.066	191	0.015
112	0.245	132	0.142	152	0.124	172	0.057	192	0.105
113	1.517	133	0.158	153	0.180	173	0.054	193	0.012
114	0.250	134	0.169	154	0.093	174	0.165	194	0.001
115	0.342	135	0.131	155	0.077	175	0.063	195	0.009
116	0.190	136	0.122	156	0.073	176	0.053	196	0.007
117	0.283	137	0.223	157	0.075	177	0.095	197	0.007
118	0.195	138	0.117	158	0.081	178	0.051	198	0.007
119	0.174	139	0.214	159	0.103	179	0.056	199	0.004
120	0.267	140	0.134	160	0.098	180	0.149	200	0.000

having I_2/D_2 ratios of less than 0.25 as direct. The number of teachers in the three categories came to be 25, 87 and 88 respectively.

The second phase of the inquiry consisted of the collection of data regarding teachers values, needs, temperament, academic career and job adjustment for studying their relationship with teacher behaviour. Despite the best efforts of the investigator, data on all the tests could be collected from 104 teachers. Some of them absented themselves from the school on the dates fixed for administration of tests, some failed to follow the instructions given for taking the test and some excused themselves for some other reasons. The final sample thus consisted of 20 indirect, 43 moderately direct and 41 direct teachers.

b) Comparison of Indirect, Moderately Direct and Direct Teachers on General and Specific Features of Classroom Behaviour

In order to find minute differences in general and special features of classroom behaviour among the three categories of teachers, an analysis of percent occurrence of behaviour in various categories and various behaviour ratios are given in the tables 3.5, 3.6 and 3.7 and graphs G_4 , G_5 and G_6 . In the same tables are given the results of t test applied to find out the difference in the mean behaviour scores in each category of the three teacher groups as also in the mean ratio scores of

Table 5.5

Results of Bartlett's Test for the Homogeneity of Variance
and t Test Between the Means of Groups.

Cat.	Groups of teachers	Sum of scores	Mean	S.D.	Homogeneity Test		t Values	
					χ^2	Level of Sig.	Indirect	Moderately Direct
1	Indirect	0.0	0.00	0.00				
	Moderately Direct	18.0	0.41	1.245	140.971	.001	2.18*	
	Direct	0.0	0.00	0.000			0.00	-2.18*
2	Indirect	1,030.0	51.00	12.412				
	Moderately Direct	1,478.0	33.58	16.911	13.752	.01	3.357**	
	Direct	347.0	8.68	10.774			8.486**	8.126**
3	Indirect	629.0	31.45	24.629				
	Moderately Direct	1,001.0	22.75	18.82	50.59	.001	1.404	
	Direct	177.0	4.43	6.385			4.827**	6.085**
4a	Indirect	2,382.0	119.10	49.316				
	Moderately Direct	3,569.0	81.11	28.003	39.424	.001	3.217**	
	Direct	935.0	23.38	14.797			8.492**	11.912**

Table 5.5 (Contd.)

4b	Indirect	214.0	10.70	13.584				
	Moderately Direct	314.0	7.14	10.224	48.416	.001	1.046	
	Direct	55.0	1.38	3.621			3.017**	3.504**
5a	Indirect	712.0	35.60	49.417				
	Moderately Direct	1,652.0	37.55	41.764	17.257	.001	0.153	
	Direct	2,651.0	66.28	78.790			1.842	2.058*
5b	Indirect	2,107.0	105.34	94.633				
	Moderately Direct	11,933.0	271.20	90.740	7.332	.05	6.582**	
	Direct	17,060.0	426.50	134.914			10.688**	6.128**
6	Indirect	845.0	42.25	25.902				
	Moderately Direct	1,439.0	32.70	19.625	3.117	N.S.	1.627	
	Direct	712.0	17.80	18.822			4.172**	3.542**
7a	Indirect	164.00	8.20	6.709				
	Moderately Direct	166.0	3.77	3.562	27.333	.001	2.778*	
	Direct	67.0	1.67	2.576			4.198**	3.112**

Table 5.5 (Contd.)

7c	Indirect	139.0	6.95	5.717			
	Moderately Direct	456.0	10.36	22.826	69.551	.001	-0.930
	Direct	158.0	3.95	6.980			1.776 1.775
7f	Indirect	138.0	6.90	8.540			
	Moderately Direct	210.0	4.77	8.419	.036	N.S.	0.933
	Direct	174.0	4.35	7.754			1.161 0.239
8	Indirect	3,448.0	172.40	98.597			
	Moderately Direct	4,831.0	109.80	61.943	8.772	.05	2.615*
	Direct	2,861.0	71.53	94.311			3.790** 2.175*
9	Indirect	340.0	17.00	10.945			
	Moderately Direct	1,310.0	29.77	23.980	15.105	.001	2.926**
	Direct	1,107.0	27.67	26.182			2.220* 0.382
10a	Indirect	4,293.0	214.65	111.743			
	Moderately Direct	7,553.0	171.66	95.934	0.077	N.S.	1.578
	Direct	5,784.0	144.60	106.520			2.363* 1.225 1.74

(Contd.)

Table 5.5 (Contd.)

10b	Indirect	93.0	4.65	6.499			
	Moderately	363.0	8.25	15.782	20.425	N.S.	1.291
	Direct						
	Direct	238.0	5.95	9.785			0.612 0.810

* Significant at .05 level.

** Significant at .01 level.

Table 5.6

Ratio	Groups of Teachers	Sum of Scores	Mean	S.D.	Homogeneity Test		t Values	
					χ^2	Level of Sig.	Indirect	Moderately Direct
$1_z/D_z$	Indirect	39.0	1.95	1.445				
	Moderately Direct	22.7	0.52	0.219	239.781	.001	4.411**	
	Direct	4.1	0.10	0.066			5.706**	11.878**
$1/d$	Indirect	30.1	1.50	0.932				
	Moderately Direct	83.3	1.89	2.274	24.119	.001	0.974	
	Direct	34.2	0.86	1.264			2.246	2.618
PTT	Indirect	1,010.3	50.52	14.035				
	Moderately Direct	2,699.3	61.35	10.759	5.811	N.S.	3.387**	
	Direct	2,764.9	69.12	15.673			4.483**	2.671**

Table 5.6 (Contd.)

PPT	Indirect	458.6	22.93	11.923				
	Moderately Direct	744.3	16.92	7.321	9.520	.01	2.085*	
	Direct	491.2	12.28	11.334			3.316**	2.203*
TOR	Indirect	1,077.8	53.89	20.230				
	Moderately Direct	1,029.7	23.40	9.439	75.413	.001	6.429**	
	Direct	211.5	5.29	3.643			10.658**	11.800**
TNOR	Indirect	993.6	49.68	19.412				
	Moderately Direct	946.3	21.51	9.090	74.249	.001	6.189**	
	Direct	200.9	5.02	3.550			10.203**	11.131 ^{xx}
TBQR	Indirect	84.2	4.21	4.639				
	Moderately Direct	83.3	1.89	3.070	90.355	.001	2.039	
	Direct	10.6	0.26	0.661			3.784	3.434
TRR	Indirect	1,103.2	55.16	14.509				
	Moderately Direct	2,345.3	53.30	20.794	7.679	0.05	0.411	
	Direct	1,265.2	31.63	25.909			4.502**	4.201**

(Contd.)

Table 5.6 (Contd.)

TRR-89	Indirect	1,316.8	65.84	14.704				
	Moderately Direct	2,845.0	64.66	19.844	20.030	.001	0.265	
	Direct	1,793.8	44.85	33.597			3.36**	3.25**
TQR-84	Indirect	1,414.2	70.71	16.323				
	Moderately Direct	1,990.8	45.25	21.383	2.111	N.S.	4.728**	
	Direct	918.5	22.96	21.696			8.676**	4.737**
TNQR-89	Indirect	1,300.5	65.02	15.656				
	Moderately Direct	1,867.0	42.43	19.523	1.666	N.S.	4.547**	
	Direct	809.5	20.24	20.307			8.648**	5.105**
TBQR-89	Indirect	113.7	5.69	7.571				
	Moderately Direct	123.9	2.81	4.962	20.271	.001	1.551	
	Direct	109.1	2.73	10.232			1.264	0.050
PIR	Indirect	212.6	10.63	7.979				
	Moderately Direct	1,019.0	23.16	16.955	31.052	.001	4.02**	
	Direct	1,600.9	40.02	27.645			6.226**	3.330**

(Contd.)

Table 5.6 (Contd.)

CCR	Indirect	655.6	32.78	14.515				
	Moderately Direct	2,121.8	48.22	11.359	6.710	.05	4.209**	
	Direct	2,562.4	64.06	17.078			7.409**	4.953**
SSR	Indirect	325.1	16.25	13.042				
	Moderately Direct	1,316.3	29.92	10.825	9.573	.01	4.088**	
	Direct	1,950.3	48.76	17.522			8.081**	5.860**
PSSR	Indirect	479.4	23.97	21.284				
	Moderately Direct	859.3	19.53	18.399	9.790	.01	0.806	
	Direct	1,106.5	27.66	29.741			0.552	1.490
TSSR	Indirect	583.2	29.16	14.794				
	Moderately Direct	2,096.7	47.65	10.937	2.846	N.S.	5.599**	
	Direct	2,758.9	68.97	13.215			10.571**	8.082**

* Significant at .05 level.

** Significant at .01 level.

these groups. It may be pointed out that before applying t test homogeneity of variances of the three groups was tested through Bartlett test. In case where variances were not found homogeneous a formula different from the general formula of t was used. Otherwise the general formula applied in case of groups with unequal sizes and equal variances was used. The levels accepted for significance of t values are .05 and .01.

In tables 5.5, 5.7 and Graphs G_4 and G_6 are provided categorywise and segmentwise comparison of behaviour of the three groups of teachers. The mean scores of the three groups in Cat. 1 show that only moderately direct group accepted that pupils have right to their feelings. The reason for indirect teachers, not using this category of behaviour, might be that they would have felt that the concern of the school is to deal with ideas and not feelings. Amidon and Flanders found little difference between direct and indirect teachers in the use of this category. The range of scores given by them is .05 to .01 from indirect to direct teachers.

While comparing the three groups of teachers on the behaviour expressed by Cat. 2, it was found that mean of scores of indirect, moderately direct and direct teachers are 51.80, 33.59 and 8.63 respectively. The t values computed between the mean scores of indirect - moderately direct, indirect - direct and moderately direct - direct groups were found to be 3.357, 8.486 and 8.126 respectively, all significant at .01 level.

Table 5.7

Segment	Groups of Teachers	Sum of scores	Mean	S.D.	Homogeneity Test		t Values	
					χ^2	Level of Sig.	Indirect	Moderately Direct
1,2,3	Indirect	1,665.0	83.25	37.066				
	Moderately Direct	2,497.0	56.75	29.121	29.274	.001	2.823**	
	Direct	524.0	13.10	13.660			8.190**	8.921**
4a,4b	Indirect	2,596.0	129.8	53.589				
	Moderately Direct	3,883.0	88.25	28.457	42.941	.001	3.265**	
	Direct	990.0	24.75	15.352			8.592**	12.883
5a,5b	Indirect	2,819.0	140.95	125.408				
	Moderately Direct	13,585.0	308.75	95.489	6.187	.05	5.233**	
	Direct	19,711.0	492.77	140.862			9.825**	6.939**

(Contd.)

Table 5.7 (Contd.)

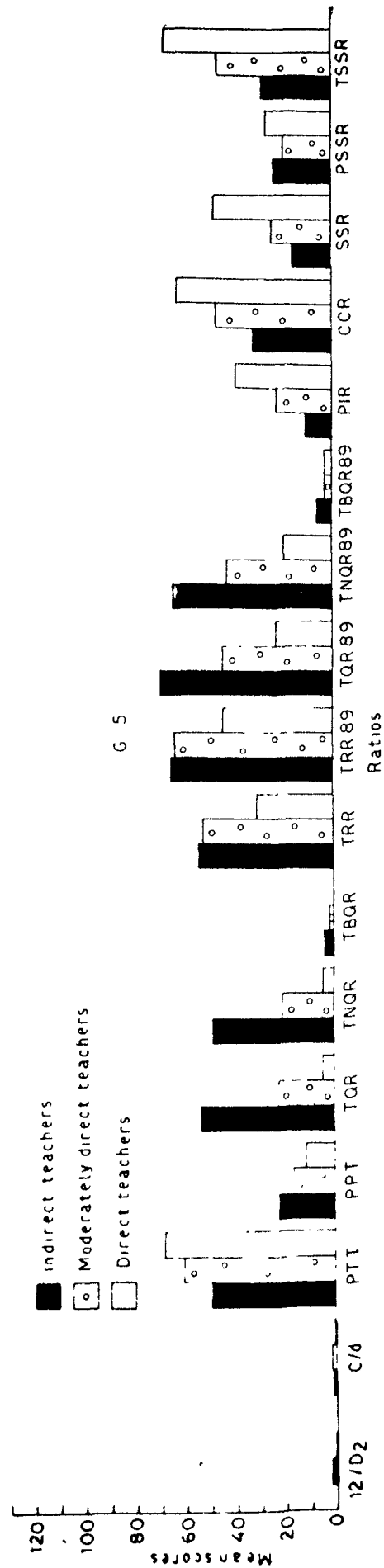
6, 7 _{SCF}	Indirect	441.0	22.05	11.152			
	Moderately Direct	832.0	18.91	24.125	28.346	.001	0.712
	Direct	399.0	9.98	11.269			3.940**
							2.206**
8, 9	Indirect	3,788.0	189.40	96.181			
	Moderately Direct	6,141.0	139.57	60.472	8.534	.05	2.133*
	Direct	3,968.0	99.20	91.133			3.484**
							2.367**
10a, 10b	Indirect	4,386.0	219.30	112.156			
	Moderately Direct	7,916.0	179.91	95.081	0.803	N.S.	1.452
	Direct	6,022.0	150.55	104.106			2.350*
							1.351
Cell (3-3)	Indirect	346.0	17.30	16.229			
	Moderately Direct	569.0	12.93	12.840	54.0	.001	1.062
	Direct	96.0	2.40	4.012			4.045**
							5.170**

* Significant at .05 level.

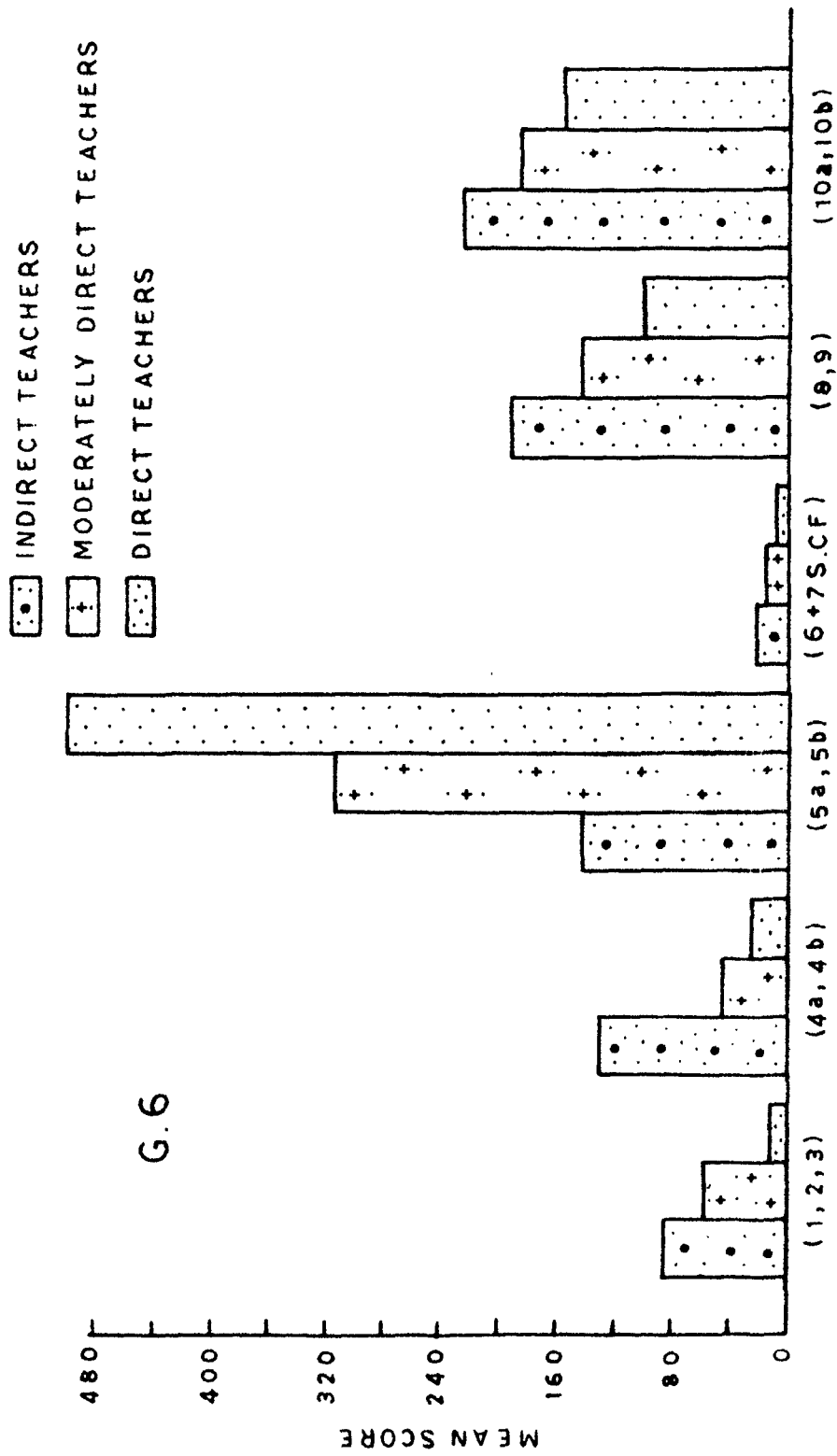
** Significant at .01 level.



MEAN SCORES OF INDIRECT, MODERATELY DIRECT AND DIRECT TEACHERS ON BEHAVIOR CATEGORIES



MEAN SCORES OF INDIRECT, MODERATELY DIRECT AND DIRECT TEACHERS ON BEHAVIOUR RATIO



Mean scores of indirect, Moderately direct and Direct teachers on behaviour segments

This clearly shows that the three groups of teachers differ significantly on the behaviour expressed by Cat.2. The average amount of praise used by indirect, moderately direct and direct teachers gradually decreased in the ratio of 6:3:1.

Similarly, means of indirect, moderately direct and direct teachers in cat.3 were found to be 31.45, 22.75 and 4.43 respectively, descending in an orderly fashion. Indirect and moderately direct teachers are not differentiable from one another in regard to their use of pupil ideas represented by cat.3 as the t value computed between the means of these groups was found to be 1.44 which did not reach the accepted level of significance. However, significant differences have been found between indirect and direct groups and between moderately direct and direct teachers as is evident from the respective t values of 4.827 and 6.085 both significant at .01 level. The results are in the expected direction. Amidon and Flanders have also found difference between indirect and direct teachers in the use of cat.3. According to them, only about 2 per cent of the tallies of direct teachers fall in cat.3 but about 9 per cent of indirect teacher's statements fell in this category.

Categories 1, 2 and 3 together reflect motivational behaviour of teachers. The best way to compare motivational behaviour of teachers is to compare averages of cat.1+2+3 for the three groups which are given in table 5.7 and Graph G₆. The means of scores for the three groups of teachers on segment

(1+2+3) were found to be 83.25, 56.75 and 13.10 respectively. The t values computed between the means of the three groups were 2.825, 8.190 and 8.921 respectively, all significant at .01 level. The results clearly indicate that the three groups have significant differences among themselves with regard to their motivational behaviour. The indirect group uses facilitative behaviour most and direct group least. A look on the (3-3) cell of the three groups of teachers reveal that average scores on (3-3) cell for indirect, moderately direct and direct teachers were 17.30, 12.93 and 2.40 respectively. The results give us further information that indirect teachers extend the ideas expressed by the pupils most and direct/least. Indirect and moderately direct teachers do not differ significantly on (3-3) cell but both the groups differ with the direct group of teachers as the respective t values of the two groups with the direct group of teachers are 4.045 and 5.170 significant at .01 level.

The finding is not unique to this study. It is borne out by several studies conducted in this area and reported in the chapter of related studies.

Questioning is another important characteristic on which indirect, moderately direct and direct teachers are distinguishable. Large differences exist in the mean scores of three groups which are 119.10, 81.11 and 23.38 respectively for indirect, moderately direct and direct teachers in category 4a

(narrow questions). The t values are 3.217, 8.492 and 11.962 between the mean scores of indirect-moderately direct, indirect-direct and moderately direct-direct groups. They confirm the differences as all are significant at .01 level. Category 4_b includes broad or thought provoking questioning behaviour of teachers. The mean scores for indirect, moderately direct and direct teachers on cat. 4b behaviour are 10.70, 7.14 and 1.38. No significant difference has been found between indirect and moderately direct groups of teachers on this category as is evident from an insignificant t value of 1.046 between the mean scores of the two groups. However, both these groups differ significantly with direct group which is shown by the respective t values of 3.017 and 3.504 both significant at .01 level. Though no significant differences between indirect and moderately direct teachers on the category of broad questioning were found, yet the means indicate that indirect group had a tendency to put more thought provoking questions than moderately direct and direct groups of teachers and that direct teachers were inclined to put least thought provoking questions.

Total questioning behaviour of teachers is represented by the segment (4a + 4b). The mean scores on the questioning behaviour of indirect, moderately direct and direct teachers were found to be 139.8, 88.25 and 24.75 respectively. The t values computed between the means of three groups of teachers were

3.265, 8.592 and 12.893 respectively, all significant at .01 level. Statistics presented above clearly indicate that the three groups differ significantly from one another on the total questioning behaviour. Indirect teachers put more questions, both narrow and broad type, than moderately direct and direct teachers and direct teachers put the least number of questions.

Cat. 5a in the modified version of FIAC by the investigator stands for reading from the book by the teacher. The mean scores on this category for the three groups of teachers, viz., indirect, moderately direct and direct are 35.60, 37.55 and 66.26 respectively. The t value between the means scores of indirect and direct groups of teachers is 2.058 significant at .05 level. There are no significant differences between indirect-moderately direct and between moderately direct and direct groups of teachers as far as cat. 5a is concerned.

Cat. 5b which is an index of lecturing brings out differences among the three groups clearly. The mean scores in this category are 105.35, 271.20 and 426.50 for indirect, moderately direct and direct groups respectively. The t values computed between the means of the three groups, viz., indirect-moderately direct, indirect-direct and moderately direct-direct were found to be 6.582, 10.688 and 6.128 respectively, all significant at .01 level. Direct teachers lecture much more than moderately direct teachers and moderately direct teachers much more than indirect teachers.

In the use of category 6, indirect and moderately direct teachers do not differ significantly, but both these groups differ significantly from direct teachers. The t values between the mean scores of indirect and moderately direct groups of teachers was found to be 1.627, not significant. But, between the mean scores of indirect and direct groups and between moderately direct and direct groups the t's were 4.172 and 3.542 respectively, both values being significant at .01 level. The mean of scores for indirect, moderately direct and direct teachers were 42.26, 32.70 and 17.80 respectively. The use of directions/more by indirect teachers than direct teachers, as found in this study, is apparently surprising. Amidon and Blanders in their study found that direct teachers use 8 per cent and indirect teachers only 4 per cent of the total interaction time in giving directions. Some explanation is, therefore, called for regarding this finding of the study. An examination of over all interaction pattern in Indian classrooms for indirect, moderately direct and direct teachers reveals that indirect teachers used questioning behaviour much more than the direct group. Further more, commands and rejections are the by-product of questioning behaviour. So, higher questioning frequency gives birth to higher incidence of commands and rejection. Commands have to be given to ask particular students to answer the question and wrong answers warrant rejection. Indirect teachers in the present study are,

therefore, found to use commands and rejection more than direct teachers. But, the kind of commands and tone and tenor of rejection differ for indirect, moderately direct and direct teachers. Indirect teachers usually issued routine type of commands such as "Now you read", "come on the black-board", "explain your point", "repeat the answer", etc., while moderately direct and direct teachers justified their authority by way of self reference. "Don't interrupt", "Do as I say", "Keep quiet and listen to me", are the type of commands they issued.

Now coming to category 7 behaviour, it may be said that following Amidon and Flanders' hint who warn "... nor do the two kinds (indirect and direct) of teachers use category 7 statements in the same way" the investigator split cat. 7 in 7_s , 7_c and 7_f in order to study the different ways in which category 7 is used by the three groups of teachers. The justification and the components of the categories have been discussed in the earlier chapter.

A look at table 5.5 for mean scores of the three groups in cat. 7 and in categories 7_s , 7_c and 7_f reveals that mean scores of indirect, moderately direct and direct teachers for simple rejection (cat. 7_s) are 8.20, 3.77 and 1.67 respectively. The t value computed between the mean scores of indirect-moderately direct, indirect-direct and between moderately direct-direct groups of teachers are 2.778, 4.198 and 3.112

respectively. Their respective levels of significance are .05, .01 and .01. It is revealed from these results that the three groups differ significantly on the behaviour of simple rejection. Indirect teachers put more questions than moderately direct and direct teachers and so rejected more wrong responses given by the students. This trend diminishes gradually in moderately direct and direct teachers. The use of this category does not show that a teacher is necessarily direct.

Another form of rejection is rejection with criticism represented by category 7_c . Mean scores of indirect, moderately direct and direct teachers on this category were found to be 6.95, 10.36 and 3.95. The t values computed between the mean scores of three groups, viz., indirect, moderately direct, indirect-direct and moderately direct-direct were found to be 0.930, 1.776 and 1.775 respectively, all non-significant. Inference that can be drawn from the above statistics is that the three groups do not differ so far as this behaviour is concerned. However, one trend is clear from the means of the three groups and that is that moderately direct teachers issued more statements of rejection with criticism than indirect teachers. Yet another type of rejection is rejection with corrective feedback which is represented by Category 7_p . Mean scores of indirect, moderately direct and direct teachers on this category are 6.90, 4.77 and 4.35 respectively. The t values between the mean scores of indirect-moderately direct,

indirect-direct and moderately direct and direct groups of teachers were found to be 0.933, 1.161 and 0.239, respectively, all non-significant. Though the three groups of teachers do not differ from one another on this category yet it is clear from their means that indirect teachers used corrective feedback more than the moderately direct and direct teachers.

Category 6 and category 7, combinedly, represent controlling behaviour of teachers. Mean scores on controlling behaviour segment ($6 + 7_a + 7_c + 7_f$) of indirect, moderately direct and direct teachers were found to be 22.05, 18.91 and 9.98 respectively. It was found that indirect and moderately direct teachers do not differ significantly on controlling behaviour as the t value of 0.712 between mean scores of the two groups is not significant. However, indirect and moderately direct teachers differ significantly from direct teachers as their respective t values of 3.940 and 2.206 are significant at .01 and .05 levels. On the face of it, it appears that indirect teachers use controlling behaviour more than moderately direct teachers and that the latter more than the direct teachers.

While examining the results, one must keep in mind that indirect teachers were found more flexible in their behaviour of than moderately direct and direct teachers making use/a variety of activities. Their classroom behaviour generally followed this pattern "question-response-praise/rejection-command/direction". As indirect teachers put questions four times

more than direct teachers the behaviours resulting from questioning also multiplied proportionately. So the categories 2, 4a, 4b, 6, 7_s, 7_F and 8 were more employed by indirect teachers than moderately direct and direct teachers.

In order to compare total controlling behaviour of the three groups one must also give consideration to their respective motivational behaviours. When the total controlling behaviour in the context of total motivational behaviour is assessed, the following results appear in terms of proportions between indirect and direct behaviour for the three groups:

	<u>Cat.(1+2+3)</u>	<u>Cat.(6+7_{scf})</u>
Indirect teachers	83.25	22.05 or 4:1
Moderately direct teachers	56.75	18.91 or 3:1
Direct teachers	13.10	9.98 or 1.4:1

For indirect teachers controlling behaviour was found to be 1/4th of motivational behaviour, for moderately direct it was 1/3rd and for direct 2/3rd of the motivational behaviour.

In the light of the above facts we can safely infer that the proportion of controlling behaviour to motivational behaviour in case of indirect teachers is less than in the case of moderately direct teachers and direct teachers. Mean scores of the three groups on category 8, which represents pupil talk (response), were found to be 172.40, 109.80 and 71.53. The respective t values computed between the mean scores of indirect-

moderately direct is 2.615, significant at .05 level and between indirect-direct and moderately direct-direct are 3.790 and 2.17, significant at .01 and .05 levels. The result shows that the three groups differ in eliciting pupil response. Indirect teachers lead in seeking pupil participation in classroom discourse followed by moderately direct and then by direct teachers. This participation, however, is devoid of pupil spontaneity and initiation.

Category 9 represents pupil initiation. The means of scores of indirect moderately direct and direct groups of teachers in category 9 are 17.00, 29.77 and 27.67 respectively. Moderately direct and direct teachers do not differ significantly in pupil initiation in their classrooms as the t value between the mean scores of these groups is 0.382, not significant. However, indirect teachers differ significantly from both moderately direct and direct groups of teachers, the t values being 2.926, significant at .01 level and 2.220, significant at .05 level. The comparison of the means show that pupil initiation was less in indirect teachers' classrooms as compared to the other two groups. The result is not unexpected as Flanders has himself pointed out the weakness of FIAC in respect of the use of category 9. According to him "Category 9 is the only code symbol which can be used for off-target remarks by pupils, counter dependent significantly

statements and resistance to compliance. That is both cooperative as well as uncooperative initiation falls into the same category."

Higher incidence of category 9 in case of moderately direct and direct teachers might have been due to any of the above factors. It is also probable that bored with continuous lecturing by the teacher, students might have disrupted the classroom proceedings time and again. This suspicion is confirmed by the incidence of frequencies of 230 and 1,857 in cells (5a-9) and (5b-9). Otherwise, one would not imagine that direct and moderately direct teachers, who have much lesser frequency of questioning than indirect teachers, would have produced more thought provoking questions (which encourage pupil initiation) than indirect teachers. The above explanation is further justified when we examine total pupil talk, which is in favour of indirect teachers. Total pupil talk is represented by the segment (8+9). The mean scores of indirect, moderately direct and direct teachers on segment (8+9) were found to be 189.40, 139.57 and 99.20 respectively. The t values computed between the mean scores of indirect-moderately direct and between direct-moderately direct teachers are 2.133 and 2.367 respectively both significant at .05 level and ^{it} between the mean scores of indirect-direct teachers is 3.484 which is significant at .01 level. From the above discussion it would be concluded that the three groups of teachers differ

in regard to total pupil talk in their classes. Indirect teachers encouraged and gave students much more opportunity to talk than moderately direct group and direct teachers gave students the least opportunity to talk.

How much is interaction in the classroom marked by work related or productive silence is represented by Cat. 10a. 214.65, 171.61 and 144.60 are the respective means of scores of indirect, moderately direct and direct teachers on this category and 1.578, 2.363 and 1.225 respectively t values computed between the means of indirect-moderately direct, indirect-direct and moderately direct-direct groups of teachers. Significant difference is obtained only between indirect and direct teachers at .05 level. A comparison of the means of the three groups shows that indirect teachers gave more time to such activities as demonstration, black board work and thinking pauses between questions and their answers, etc., than the direct teachers.

In regard to behaviour in Cat. 10b (non-productive silence), all the three groups were found alike. The differences between the means of 4.65, 8.25 and 5.95 obtained in respect of indirect, moderately direct and direct teachers are too small and yielded non-significant t values of 1.291, 0.612 and 0.810.

Group Differences on the Basis of Ratios

In table 5.6 and graph G₂ is provided ratio-wise comparison of behaviour of the three groups of teachers. Comparison of I_2/D_2 ratios of indirect, moderately direct and direct teachers reveals that the three groups of teachers differ significantly from one another.

Means of indirect, moderately direct and direct teachers were found, to be 1.92, 0.52 and 0.10 respectively. The t values between ratio means of indirect-moderately direct, indirect-direct and between moderately direct and direct groups are 4.411, 5.706 and 11.878 respectively. All are significant at .01 level. The data shows that indirect influence of teachers gradually decreases from indirect group to direct group. Means of revised i/d ratios of the three groups are 1.50, 1.89 and 0.86, the t value computed for mean ratios of indirect and moderately direct teachers is 0.974 which is not significant and between means of indirect and direct it is 2.246, significant at .05 level, and for moderately direct and direct groups it is 2.618 which is significant at .01 level. From the above information, it would be concluded that indirect and moderately direct teachers do not differ on i/d ratio and that their motivational behaviour exceeds their controlling behaviour as is evident from their means of 1.50 and 1.89. Both these groups have significant differences with direct teachers who use restrictive behaviour more than

motivational behaviour which is evident from the mean of their i/d ratios which is 0.86.

Percent teacher talk (PTT) of indirect, moderately direct and direct teachers was found to be 50.52, 61.35 and 69.12 respectively. The t values computed between the mean scores of indirect-moderately direct, indirect-direct and between moderately direct-direct teachers are 3.387, 4.483 and 2.671, all significant at .01 level. This shows that the three groups differ significantly as far teacher talk is concerned. Indirect teachers talked least and direct teachers talked most of the three groups.

On per cent pupil talk, the three groups of teachers again differ significantly as the t value between mean percentage of pupil talk of indirect and moderately direct groups is 2.085 significant at .05 level, between indirect and direct groups 3.316, significant at .01 level and between moderately direct and direct groups 2.203, significant at .05 level. Indirect teachers gave more opportunity for pupil talk than moderately-direct teachers and moderately direct teachers more than direct teachers. It is evident from their respective mean percentages of 22.93, 16.92 and 12.28.

Teacher question ratio (TQR) stands for teacher questioning behaviour against his total questioning and lecturing behaviour. Mean scores of indirect, moderately direct and direct teachers on this ratio were found to be 53.89, 23.40 and 5.29 respectively. The t values

computed between the mean scores of indirect-moderately direct, indirect-direct and between moderately direct-direct groups of teachers are 6.429, 10.638 and 11.80 respectively all significant at .01 level. Thus on TOR, all the three groups differ significantly from one another. Indirect teachers used questioning behaviour more than lecturing. Their questioning behaviour in the composite of questioning and lecturing behaviour is two times more than the same in case of moderately direct teachers and ten times more than ^{cases of} the same in direct teachers.

Teachers' narrow questioning ratio (TNQR) takes on the pattern of TOR. The mean scores of indirect, moderately direct and direct teachers on this ratio are 49.68, 21.51 and 5.02 respectively. The t values computed between the mean scores of indirect-moderately direct, indirect-direct and between moderately direct-direct teachers are 6.189, 10.203 and 11.131 respectively, all significant at .01 level.

On teacher broad questioning ratio (TBQR) means scores of indirect, moderately direct and direct teachers are 4.21, 1.89 and 0.26 respectively. The t value between the mean scores of indirect and moderately direct teachers is 2.039 which is not significant. But the t values between the means of indirect-direct and between moderately direct-direct teachers are 3.784 and 3.434 respectively, significant at .01 level. This means that indirect and moderately direct teachers

do not differ significantly on (BTOR) but both these groups differ significantly with direct group of teachers. For indirect teachers, the ratio is sixteen times more than it is for direct teachers.

Teachers' tendency to react to the ideas and feelings of pupils is represented by the teacher response ratio (TRR). Mean scores on this ratio for indirect, moderately direct and direct teachers were found to be 55.16, 53.30 and 31.63 respectively. The t values computed between the mean scores of indirect and moderately direct teachers was found to be 0.411 which is not significant. But the t values between indirect-direct, and between moderately direct-direct teachers' means were 4.502 and 4.201, both significant at .01 level. This evidence reveals that in case of indirect and moderately direct teachers the proportion of statements of approval of pupil response, encouragement and praise in the aggregate of these and statements of direction, rejection and justification of teacher authority was significantly higher than the same in case of direct teachers.

Teachers' reaction immediately after pupils have stopped talking is represented by the ratio TRR-89. The means of the three groups, viz., indirect, moderately direct and direct teachers on this ratio were found to be 65.84, 64.66 and 44.85 respectively. The t value computed between means of ratios of indirect and moderately direct groups of teachers was

found to be 0.265, which is not significant. But those computed between the means of ratios of indirect-direct and moderately direct-direct teachers were found to be 3.360 and 3.250, both significant at .01 level. The comparison thus indicates that indirect and moderately direct groups of teachers do not differ on this ratio, but both these groups differ significantly from the teachers of direct group. Higher means of indirect and moderately direct groups reveal that teachers of these groups exhibit more tendency to praise pupils and integrate pupil ideas into the fabrics of classroom discussion than to discourage them and reject their ideas as compared to direct teachers.

TQR-89 indicates the proportion of teacher's questioning behaviour in the aggregate of this questioning and lecturing behaviour which occurs immediately after pupils have stopped talking. The Means of the three groups of teachers, viz., indirect, moderately direct and direct on this ratio were found to be 70.71, 45.25 and 22.96 respectively and t values computed between indirect-moderately direct, indirect-direct and between moderately direct-direct groups, were found to be 4.728, 8.676 and 4.737 respectively, all significant at .01 level. The data reveals that the three groups differ significantly on this behaviour of teachers and the proportion of questioning in the aggregate behaviour of the two types that follows termination of pupil talk is highest in case of indirect teachers and lowest in case of direct teachers. Further,

indirect teachers tend to put questions more than lecturing whereas the other two groups tend to give more lecturing than questioning.

The same pattern follows for teacher instantaneous narrow question ratio (TNQR-89) which is evident from the means of 65.02, 42.43 and 20.24 for indirect, moderately direct and direct teachers respectively and the *t* values computed between the means of ratios of indirect-moderately direct, indirect-direct and between moderately direct-direct groups which are 4.547, 8.648 and 5.105 respectively, all significant at .01 level.

On teacher instantaneous broad question ratio TBQR-89, however, the three groups do not differ as the *t* values between the means of ratios of indirect-moderately direct, indirect-direct, and between moderately direct-direct groups are 1.551, 1.264 and 0.050 respectively, all non-significant. However, means of the ratios of 5.69, 2.81 and 2.73 for indirect moderately direct and direct teachers suggest that indirect teachers' broad questioning behaviour in the total of their questioning and lecturing behaviour that occurs after the termination of pupil talk is two times more than the same behaviour exhibited by moderately direct and direct teachers. The results, though not significant statistically, have taken expected direction.

Pupil initiation is reflected by the ratio PIR. Means

of indirect, moderately direct and direct teachers on this ratio are 10.63, 23.16 and 40.02 respectively. The t values computed between the means of ratios of indirect-moderately direct, indirect-direct and between moderately direct-direct teachers are 4.02, 6.226 and 3.330 respectively, all significant at .01 level. Statistics provided above reveal that the three groups differ significantly from one another and that the amount of initiation in total pupil talk is more in classes of direct teachers than in those of moderately direct group of teachers and more in classes of moderately direct teachers than in classes of indirect teachers. It would indeed amount to mechanical interpretation of the result if it is construed to mean that pupil initiation ratio is lower in indirect teacher's classes because that would be contrary to the very concept of indirectness. Since PIR is determined by cat. (9/8+9) we will have to take into account the context in which these behaviour occur. By virtue of higher questioning by indirect teachers there is greater incidence of cat. 8 in their interaction. So far as cat. 9 is concerned, it is artificially inflated in interaction of direct teachers as discussed earlier. The net result of this is apparent higher PIR in the latter group.

CCR (content cross ratio) indicates the proportion of purely content-oriented interaction in the total interaction. The means of indirect, moderately direct and direct teachers on this ratio are 32.78, 48.22 and 64.06 and the t values computed

between the means of ratios for indirect-moderately direct, indirect-direct and between moderately direct-direct groups of teachers are 4.209, 7.409 and 4.953 respectively, all significant at .01 level. It means that the three groups vary from one another on this ratio and that direct teachers gave more emphasis on content than moderately direct teachers and indirect teachers gave less emphasis on content than the other two groups.

On steady state ratio (SSR), the three groups again differ from one another as the t values computed between the means of ratios of indirect-moderately direct, indirect-direct and between moderately direct-direct groups are 4.088, 8.081 and 5.860 respectively, all significant at .01 level. The means of 16.25, 29.92 and 48.76 for indirect, moderately direct and direct teachers suggest that the shift from one category to the other is more rapid in case of indirect teachers than moderately direct teachers and that the amount of flexibility was least in direct teachers. The same pattern is followed when comparisons of the groups are made of TSSR which is evident by the means of the three groups which are 29.16, 47.65 and 68.97 and the significance of ratios at .01 level between the mean scores of indirect-direct, indirect-moderately direct and between moderately direct-direct teachers which are 5.599, 10.571 and 8.082 respectively. But on PSSR the three groups do not differ significantly from one another which is evident by the insignificant t values of 0.806, 0.552

and 1.490 between mean scores of indirect-moderately direct, indirect-direct and between moderately direct-direct groups of teachers. The means of 23.97, 19.53 and 27.66 in case of indirect, moderately direct and direct groups of teachers suggest that indirect and direct teachers provide more opportunity of sustained initiation and response than moderately direct teachers though their differences are not significant.

It is here noteworthy that direct group consists mostly of language teachers. Higher scores of teachers of direct group of PSSR is most probably due to reading from the book by the pupils. Otherwise, it cannot be possible that pupils in the classrooms of direct teachers would have stayed in cat. 8 or cat. 9 more than 3 seconds had the teacher put questions with greater frequency in their total interaction. Questioning by them was much low in comparison with direct and moderately direct teachers.

SECTION B

Values and Teacher Behaviour

Table 5.8 and Graph G₇ contain results of differences in mean scores of different values for the indirect, moderately direct and direct group of teachers. This kind of analysis was needed to find out whether values are related to the index of indirectness-directness which is not determined on the basis of all interactional categories. A study of the relationship of values with various categories of behaviour and behaviour ratios was also necessary for having a complete picture of the relationship. Data pertaining to the latter type of analysis is contained in tables 5.9 and 5.11. The following facts come to light by the examination of the contents of these tables.

Theoretical value does not seem to differentiate indirect, moderately direct and direct teachers. The mean scores on this value for the three groups are 41.10, 42.18 and 42.63 respectively. The magnitude of t values between mean scores of indirect-moderately direct, indirect-direct and between moderately direct-direct groups are respectively .721, 1.078 and 0.352, all the three not being significant. This would be interpreted to mean that directness-indirectness in a teacher's classroom behaviour is unrelated to his belief in theoretical

Table 5.8

Results of Bartlett's Test for the Homogeneity of Variance and
t test between the Mean of Groups on Values.

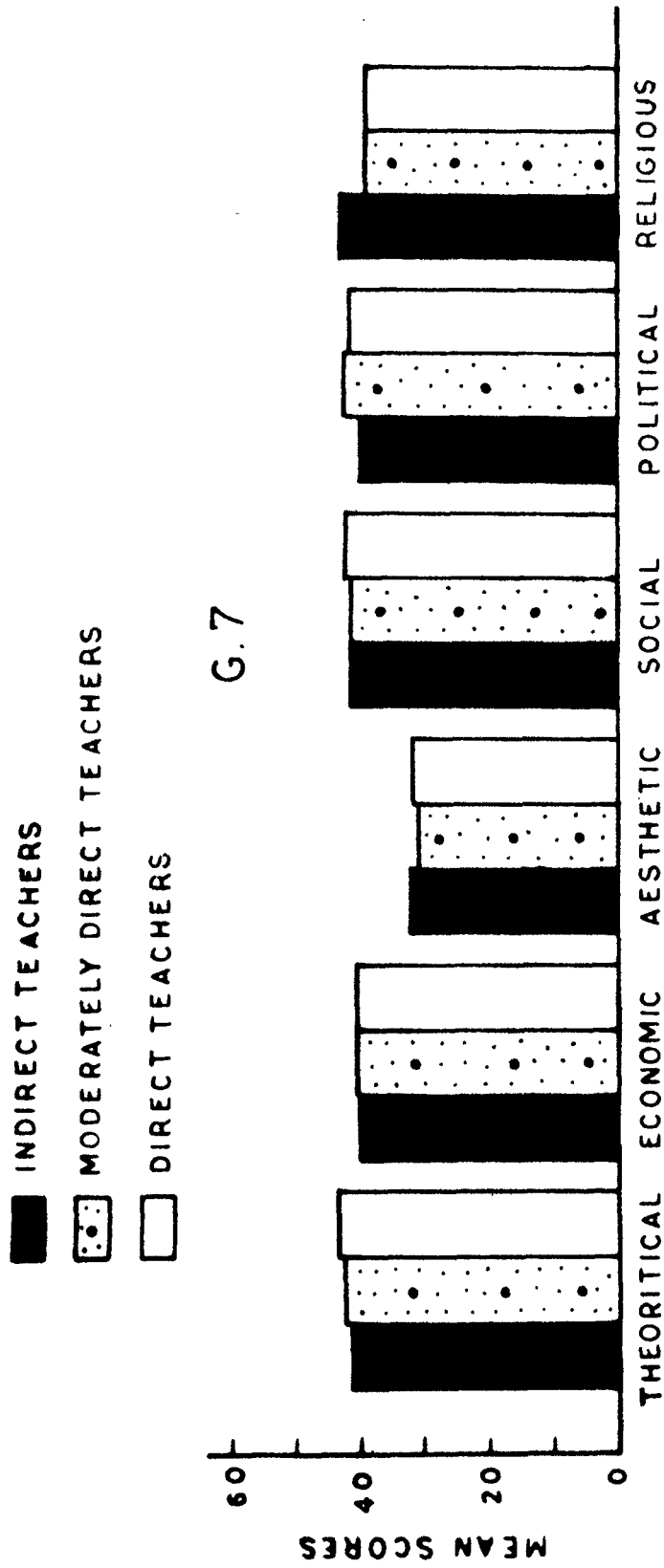
Values	Groups of teachers	Sum of scores	Mean	S.D.	Homogeneity Test		t Values	
					χ^2	Level of Sig.	Indirect Teachers	Moderately direct teachers
THEORETICAL	Indirect	822.0	41.10	4.412				
	Moderately direct	1,856.0	42.18	6.001	2.288	N.S.	0.721	
	Direct	1,705.0	42.63	5.494			1.078	0.352
ECONOMIC	Indirect	813.0	40.65	8.512				
	Moderately direct	1,793.0	40.75	6.214	2.944	N.S.	0.053	
	Direct	1,630.0	40.75	6.613			0.050	0.000
AESTHETIC	Indirect	640.0	32.00	7.130				
	Moderately direct	1,369.0	31.00	6.482	1.097	N.S.	0.492	
	Direct	1,264.0	31.60	7.632			0.195	0.316
SOCIAL	Indirect	835.0	41.75	5.004				
	Moderately direct	1,835.0	41.70	6.565	3.355	N.S.	0.028	
	Direct	1,706.0	42.65	5.102			0.648	0.732

Table 5.8 (Contd.)

POLITICAL	Indirect	815.0	40.75	3.945			
	Moderately direct	1,886.0	42.86	7.093	9.183	0.05	1.525
	Direct	1,687.0	42.17	5.218			1.180 0.510
RELIGIOUS	Indirect	880.0	44.00	5.099			
	Moderately direct	1,786.0	40.00	10.199	15.765	0.01	1.781
	Direct	1,612.0	40.30	6.277			2.448* 0.159

* Significant at .05 level.

** Significant at .01 level.



Mean scores of indirect, Moderately direct and direct teachers on value variable

Table 5.9

Correlation of Categories with Values

Value	Cat. 1	Cat. 2	Cat. 3	Cat. 4a	Cat. 4b	Cat. 5a	Cat. 5b	Cat. 6	Cat. 7a	Cat. 7c	Cat. 7f	Cat. 8	Cat. 9	Cat. 10a	Cat. 10b
THEO	-0.018	-0.093	-0.184*	-0.207**	-0.037	0.066	0.118	-0.294**	-0.171*	0.087	-0.015	-0.103	-0.031	0.137	0.092
ECO	0.138	0.172*	0.058	0.117	0.029	-0.049	-0.064	0.141	0.061	-0.081	-0.010	-0.037	0.043	0.049	0.031
AES	-0.011	-0.141	-0.052	-0.036	0.032	0.028	0.019	-0.071	-0.052	0.001	0.070	0.121	-0.089	-0.101	0.135
SOC	0.083	-0.136	-0.022	-0.057	0.004	0.015	-0.007	0.120	0.009	-0.050	0.032	0.030	0.016	0.085	0.014
POL	0.019	-0.010	-0.079	-0.048	-0.063	0.011	-0.011	0.019	-0.150	0.065	-0.102	-0.129	0.148	0.113	0.042
RIL	-0.189*	0.135	0.165*	0.186*	-0.004	0.046	-0.056	0.092	0.232**	-0.030	0.025	0.143	-0.112	-0.179*	-0.117

* Significant at .05 level.

** Significant at .01 level.

Table 5.11

Correlation of Behaviour Ratios with Values

Value	$1_2/D_2$	$1/d$	PIT	PPT	TQR	TNR	TBQR	TRR	TRR-89
THE	-0.150	0.117	-0.038	-0.107	-0.165	-0.167*	-0.061	-0.007	0.012
ECO	0.048	0.084	-0.018	-0.034	0.054	0.053	0.031	0.138	0.165*
AES	0.065	-0.046	-0.005	0.105	0.004	-0.010	0.090	-0.161*	-0.162*
SOC	-0.073	-0.145	-0.049	-0.033	-0.046	-0.045	-0.025	-0.130	-0.147
POL	-0.119	0.078	-0.036	-0.090	-0.063	-0.053	-0.091	-0.007	0.019
RIL	0.164*-0.120	0.083	0.117	0.173*	0.183*	0.014	0.010	0.076	

* Significant at .05 level.

(Contd.)

Table 5.11 (Contd.)

Value	TQR-89	TNQR89	TBQR89	PIR	CCR	SSR	PSSR	TSSR
THE	-0.148	-0.136	-0.071	0.074	0.044	0.090	0.003	0.176*
ECO	-0.097	-0.082	-0.068	0.116	-0.061	-0.084	-0.189*	-0.064
AES	0.043	0.026	0.062	-0.123	0.032	-0.004	0.166*	-0.025
SOC	-0.003	-0.005	0.006	0.026	-0.029	0.003	-0.014	0.044
POL	-0.011	-0.005	-0.032	0.123	-0.019	-0.031	-0.012	0.012
RIL	0.188*	0.174*	0.087	-0.171*	0.010	0.018	0.074	-0.096

value. Study of data analysis in tables 5.9 and 5.11 confirms this conclusion.

Theoretical value is found significantly correlated with only cat. 3, 4a, 6 and 7_s to the tune of $-.184$, $-.207$, $-.294$ and $-.171$ and only with two behaviour ratios namely TNOR ($r = -.167$) and TSSR ($r = .176$). The second and third of these coefficients are significant at .01 level and the rest at .05 level. In cat. 3 and 4a are codified motivational and questioning behaviour and in 6 and 7_s directness and rejection behaviour. The first two categories symbolise indirectness and the last two directness. Negative correlation of the theoretical value with both kinds of behaviour only means that it affects both types of behaviour in the same direction and hence does not account for any variance between the two. Theoretical value is dominant in those who are intellectualistic with scientific and philosophical bent of mind. They seek to observe and reason. Since (both indirect and as well as direct) teachers are practitioners and not theorists, it is not unexpected to find negative correlation of this value with both motivational and controlling behaviours. Positive correlation of this value with teacher steady state ratio and negative with TNOR further confirms preoccupation of theoretical person with lengthy reasoning and explanations by himself without caring much for asking questions on the point under discussion.

Thus negative correlation of theoretical value with cat.3 and 4a and also with cat.6 and 7, is consistent with absence of difference in mean scores on this value between indirect, moderately direct and direct teachers. Both results lead to the conclusion that theoretical value does not predict teacher's verbal behaviour in the classroom. Its dominance is detrimental as much to indirect behaviour as it is to direct behaviour. Further, the indirect, moderately direct and direct groups of teachers hold theoretical value in almost equal degree.

On the basis of scores on economic value, the three groups of teachers are not found to differ. The means of these groups differ only in decimal points and the resultant t values are too small and negligible. This means that both these variables have no relationship whatsoever. When correlations of economic value scores of the sample with specific categories and ratios are perused (tables 5.9 and 5.11) it is found that the economic value scores have correlation of 0.172 and 0.165 with category 2 and TRR-89 respectively. Both the correlation coefficients are significant at .05 level. Further, negative correlation of 0.189 with PSSR, significant at 0.05 level is also present. This would be interpreted to mean that teachers having high economic value praise and encourage the pupils and exert a greater proportion of supportive influence in their aggregate of supportive and restrictive behaviour after the termination of pupil talk, in comparison with teachers who have low economic

value. Further, they require their pupil to supply short answers or explanations and be flexible more than those who hold economic value in low degree. The percentages of occurrences of Cat. 2 teacher behaviour and of supportive and restrictive teacher behaviours at the termination of pupil talk, on which TRR-89 is based, are so small in the total interaction of teachers that the correlations obtained above do not affect the general behaviour pattern. That is to say that high economic value creates in its holder inclination to use indirect or direct behaviour more than ^{other} /teachers. No prediction of pattern used by the teachers is possible to be made on the basis of economic value.

The three groups of teachers, viz., indirect, moderately direct and direct are not differentiable from one another on the basis of their scores on aesthetic value which is evident from the respective means of 32.0, 31.0 and 31.6 and the t values between the mean scores of the three groups which are 0.492, 0.192 and 0.316 all non-significant. When the correlation of the aesthetic value scores with categories and ratios were perused, it was found that this value has negative correlations of -0.161 and -0.162 with TRR and TRR-89 and a positive correlation of 0.166 with PSSR. The correlations are significant at .05 level. The higher aesthetic teachers believe in form and harmony. To maintain order and discipline, they lead to control students more than to allow them free expression

through motivation in comparison with other teachers. Likewise, in comparison with others, they issue more statements of control than statements of motivation after pupils have stopped talking. Again, in their classes pupil's responses as also initiation are of more sustained nature (PSSR), again an evidence of higher aesthetic teachers' preference for form and harmony.

Social and political values are not found to have any impact on teacher behaviour, neither are they found more in degree in any teacher group more than others nor are their correlations with any category or ratio found significant.

When the three groups of teachers were compared on religious value, it was found that indirect-moderately direct groups of teachers and moderately direct-direct groups of teachers are not differentiable on religious value as the respective t values computed between their mean scores are 0.781 and 0.159 which are not significant. But indirect and direct groups differ significantly as the t value computed between their mean scores is 2.448, significant at .05 level. The means of 44.0, 40.0 and 40.30 for indirect, moderately direct and direct groups reveal that indirect teachers conclusively possess more

religious value than direct teachers and probably more than moderately direct teachers.

Spranger defines religious man as one "whose mental structure is directed to the creation of the highest and absolutely satisfying value experience." Religious value has positive correlation with cat. 3, cat. 4a, I_z/D_z ratio, TQR, TNQR, TQR-89 and TNQR-89. Respective coefficients of correlation are 0.165, 0.186, 0.164, 0.173, 0.183, 0.188 and 0.174, all significant at .05 level. Correlation of religious value to the tune of 0.232 with cat. 7_s significant at .01 level is also obtained. But this value has negative correlation of - 0.189, - 0.179 and - 0.171 with cat. 1, cat. 10a and PIR, significant at .05 level. The results reveal that teachers possessing high religious value, in comparison with those who have low religious value, build their ideas more on the ideas of pupils and put narrow questions more frequently. Further, they tend to use greater proportion of questions in their questioning and lecturing behaviour more than other teachers, in total interaction as well as after the termination of pupil talk. Again, they also prefer to reject wrong responses given by the students without any comment in comparison to teachers possessing low degree of religious value. It is also found that over all they exercise indirect influence in the classroom more than direct.

But they do not seem to recognise positive and negative emotional reactions of students. It is also noted that in their classes the share of responsive talk in the total talk by pupils is greater than in classes of other teachers. Yet another feature of their class rooms is more activity than in the classes of other teachers. (For value scores see appendix 8).

SECTION C

Needs and Teacher Behaviour

The results of the comparison of indirect, moderately direct and direct groups of teachers on the manifest needs associated with each of the 15 variables are contained in table 5.12 and the data to study relationship of these need variables with teacher behaviour in each separate category and with each computed behaviour ratios is analysed in tables 5.13 and 5.14.

An examination of table 5.12 and graph Gg reveals that t values between the mean scores of indirect-moderately direct, indirect-direct and between moderately direct-direct groups of teachers are statistically insignificant, and the means of the three groups are so close to each other that

Table 5.12

Result of Bartlett's Test For the Homogeneity of Variance
and t Test Between the Mean of Groups On Needs.

Need	Groups of teachers	Sum of scores	Mean	S.D.	Homogeneity Test		t Values	
					χ^2	Level of Sig.	Indirect Teachers	Moderately Direct Teachers
ach	Indirect	278.0	13.90	3.523				
	Moderately direct	561.0	12.75	4.018	0.458	N.S.	1.157	
	Direct	532.0	13.30	3.797			0.605	0.645
def	Indirect	251.0	12.55	4.639				
	Moderately direct	524.0	11.91	3.161	4.858	N.S.	0.561	
	Direct	498.0	12.45	3.266			0.086	0.770
ord	Indirect	287.0	14.35	4.184				
	Moderately direct	595.0	13.52	4.294	0.703	N.S.	0.727	
	Direct	539.0	13.48	3.776			0.788	0.054
exh	Indirect	248.0	12.40	3.966				
	Moderately direct	535.0	12.16	3.341	2.068	N.S.	0.236	
	Direct	452.0	11.30	3.006			1.093	1.241

(Contd.)

Table 5.12 (Contd.)

aut	Indirect	296.0	14.80	2.003				
	Moderately direct	739.0	16.80	2.808	0.578	N.S.	2.514*	
	Direct	651.0	16.27	3.162			1.762	0.794
Aff	Indirect	273.0	13.65	3.183				
	Moderately direct	610.0	13.86	3.868	2.486	N.S.	0.232	
	Direct	526.0	13.15	3.060			0.581	0.942
int	Indirect	275.0	13.75	3.127				
	Moderately direct	632.0	14.36	3.163	1.208	N.S.	0.725	
	Direct	612.0	15.30	3.688			1.703	1.243
suc	Indirect	292.0	14.60	4.430				
	Moderately direct	640.0	14.55	3.962	5.795	N.S.	0.047	
	Direct	590.0	14.75	2.898			0.137	0.272
dom	Indirect	259.0	12.95	2.982				
	Moderately direct	606.0	13.77	3.326	0.484	N.S.	0.986	
	Direct	531.0	13.27	3.427			0.378	0.674

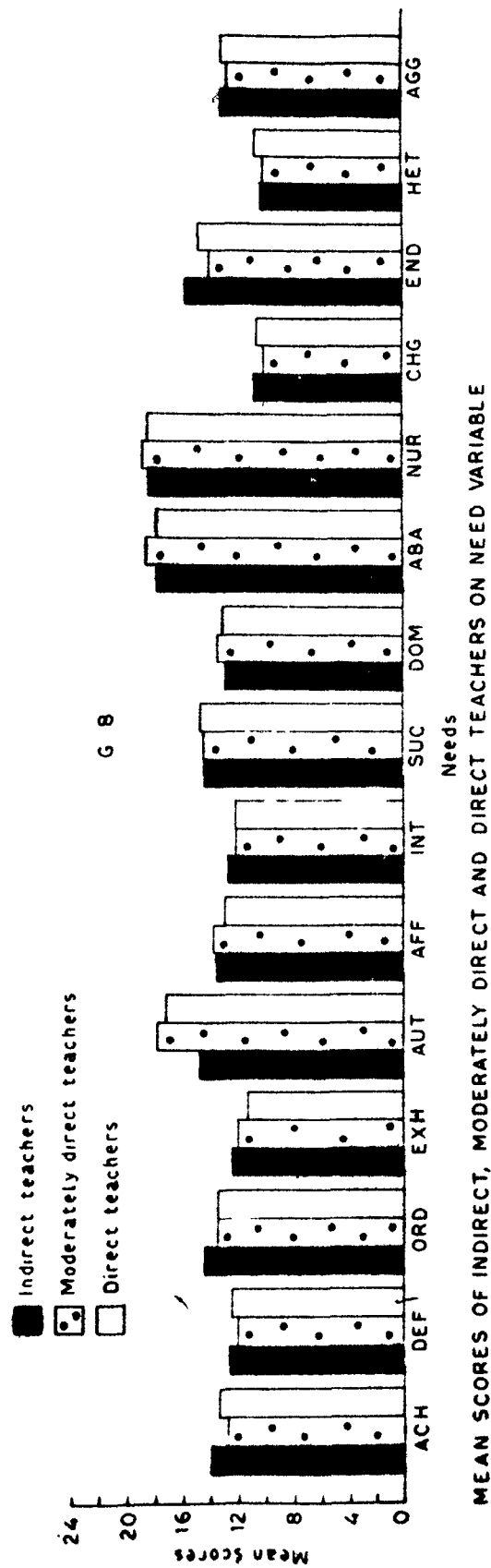
(Contd.)

Table 5.12 (Contd.)

Aba	Indirect	362.0	18.10	4.303				
	Moderately direct	828.0	18.82	4.288	0.385	N.S.	0.620	
	Direct	723.0	18.08	4.693			0.021	0.755
Nur	Indirect	371.0	18.55	4.244				
	Moderately direct	841.0	19.11	3.558	3.582	N.S.	0.519	
	Direct	750.0	18.75	2.950			0.190	0.512
Chg	Indirect	220.0	11.00	4.304				
	Moderately direct	451.0	10.25	5.017	0.783	N.S.	0.613	
	Direct	431.0	10.77	4.515			0.188	0.505
end	Indirect	321.0	16.05	4.785				
	Moderately direct	627.0	14.25	3.699	2.026	N.S.	1.492	
	Direct	605.0	15.13	4.316			0.729	0.993
het	Indirect	208.0	10.40	6.361				
	Moderately direct	494.0	11.23	5.778	0.458	N.S.	0.496	
	Direct	432.0	10.80	5.580			0.239	0.345

Table 5.12 (Contd.)

Agg	Indirect	264.0	13.20	3.636			
	Moderately direct	565.0	12.84	4.388	4.056	N.S.	0.343
	Direct	528.0	13.20	3.204			0.000
							0.431



Correlation of Behaviour Categories
with Need Variable

	n ach	n def	n ord	n exp	n aut	n aff	n int	n suc
Cat. 1	0.170*	0.009	0.176*	0.116	-0.007	0.028	-0.027	-0.001
Cat. 2	-0.098	-0.083	-0.078	0.161*	0.029	-0.049	-0.017	-0.115
Cat. 3	-0.068	-0.075	-0.070	0.197*	0.067	-0.082	0.034	0.045
Cat. 4a	0.004	0.006	0.017	0.121	0.002	-0.072	-0.216**	-0.116
Cat. 4b	-0.097	-0.011	-0.026	0.211**	0.064	0.030	-0.007	-0.014
Cat. 5a	-0.141	0.038	0.073	-0.086	-0.050	0.080	0.006	0.036
Cat. 5b	0.042	0.194*	-0.182*	-0.177	0.052	0.076	0.192*	0.019
Cat. 6	0.004	-0.111	0.273**	0.066	-0.059	0.017	-0.053	-0.202**
Cat. 7a	-0.042	-0.029	-0.042	0.076	-0.006	0.086	0.010	-0.116
Cat. 7c	-0.056	-0.114	-0.014	0.021	0.168*	-0.090	-0.202**	0.043
Cat. 7f	0.134	-0.023	0.099	-0.026	-0.127	-0.102	-0.052	0.026
Cat. 8	0.120	-0.078	0.130	0.011	-0.118	-0.210**	-0.111	0.109
Cat. 9	0.119	0.051	-0.108	-0.046	0.067	0.133	0.035	0.007
Cat. 10a	0.049	-0.220**	0.074	0.137	0.024	0.027	-0.096	-0.040
Cat. 10b	0.048	0.006	-0.098	-0.004	-0.063	-0.009	-0.086	-0.062

* Significant at .05 level.

** Significant at .01 level.

(Contd.)

Table 5.13 (Contd.)

	n dom	n aba	n nur	n chg	n end	n pet	n egg
Cat. 1	0.115	0.024	-0.229**	-0.022	-0.123	-0.015	-0.219**
Cat. 2	0.060	0.011	0.000	0.071	0.084	0.086	-0.077
Cat. 3	-0.001	0.055	0.098	-0.188*	-0.115	0.002	0.103
Cat. 4a	-0.074	0.197*	0.088	0.026	0.104	0.029	-0.037
Cat. 4b	0.014	0.053	0.099	-0.228**	-0.051	-0.040	0.119
Cat. 5a	-0.069	-0.117	0.030	0.101	-0.097	0.081	0.043
Cat. 5b	0.075	-0.094	-0.011	0.092	-0.030	-0.132	0.018
Cat. 6	-0.099	0.195*	0.061	0.008	-0.066	0.029	-0.055
Cat. 7a	-0.017	0.123	0.069	-0.021	0.064	-0.114	-0.029
Cat. 7c	-0.079	0.177*	0.208**	0.028	-0.091	0.060	0.114
Cat. 7p	-0.044	-0.042	0.079	-0.113	-0.044	0.008	0.148
Cat. 8	-0.161*	0.118	0.116	-0.207**	-0.001	0.078	0.116
Cat. 9	0.047	-0.034	-0.172*	0.141	0.033	-0.099	0.020
Cat. 10a	0.139	-0.086	-0.239**	0.041	0.107	0.124	-0.101
Cat. 10b	-0.082	0.144	0.050	-0.078	0.021	0.014	0.162*

Table 5.14

Correlation of Behaviour Ratios With Need Variable

Ratios	n act	n def	n ord	n exh	n ant	n aff	n int	n suc
1/D	0.024	0.081	0.093	0.145	-0.073	-0.110	-0.104	-0.059
1/d	-0.081	0.038	-0.161*	0.181*	0.135	0.022	0.118	0.048
PTT	-0.160*	0.228**	-0.141	-0.080	0.068	0.087	0.153	-0.049
PFT	0.159*	-0.082	0.115	-0.020	-0.111	-0.175*	-0.096	0.121
TQR	0.011	-0.086	0.137	0.119	-0.064	-0.075	-0.162*	-0.104
TNQR	0.023	-0.082	0.141	0.096	-0.070	-0.088	-0.171*	-0.113
TBQR	-0.066	-0.061	0.037	0.191*	0.008	0.043	-0.035	0.006
TRR	-0.011	0.059	-0.213**	0.166*	0.008	0.081	0.044	0.018
TRR-89	0.004	0.041	-0.153	0.161*	-0.006	0.137	-0.061	0.016
TQR-89	-0.060	-0.087	0.106	0.071	-0.058	-0.107	-0.167*	-0.086
TNQR-89	-0.050	-0.055	0.113	0.076	-0.067	-0.148	-0.174*	-0.076
TBQR-89	-0.045	0.014	0.001	-0.002	0.015	0.109	-0.016	-0.046
PIR	-0.007	-0.034	-0.128	-0.092	0.162*	0.178*	0.068	0.030
CCR	-0.107	0.233**	-0.141	-0.121	0.041	0.094	0.152	-0.001
SSR	-0.107	0.175*	-0.133	-0.128	0.042	0.039	0.161*	0.019
PSSR	0.174*	0.051	0.097	-0.106	-0.212**	-0.142	0.091	0.156*
TSSR	-0.021	0.131	-0.156	-0.114	0.039	-0.011	0.155	0.083
1 ₂ /D ₂	0.056	-0.081	0.137	0.108	-0.162*	-0.074	-0.054	-0.022

* Significant at .05 level.

** Significant at .01 level.

(Contd.)

TABLE 5.14 (Contd.)

Ratios	n dom	n abs	n nur	n chg	n end	n pet	n agg
L/D	-0.089	0.130	0.035	-0.069	0.176*	0.007	-0.045
L/d	0.114	-0.127	-0.185*	-0.012	-0.007	0.009	-0.022
PTT	0.009	-0.030	0.123	0.114	-0.099	-0.125	-0.006
PPT	-0.160*	0.118	0.084	-0.189*	0.003	0.047	0.120
TOR	-0.099	0.139	-0.066	-0.026	0.101	0.079	-0.004
TNOR	-0.104	0.139	-0.021	0.008	0.115	0.089	-0.020
TBOR	-0.009	0.063	0.086	-0.215**	-0.042	-0.026	0.099
TRR	0.089	-0.082	-0.051	0.037	0.018	-0.027	-0.111
TRR-89	0.019	-0.035	-0.057	0.097	-0.008	-0.004	-0.145
TOR-89	-0.054	0.101	0.180*	-0.117	0.025	0.089	0.080
TNOR-89	-0.048	0.083	0.157*	-0.099	0.033	0.109	0.081
TBOR-89	-0.032	0.078	0.114	-0.084	-0.019	-0.043	0.015
PIR	0.085	-0.052	-0.196*	0.156*	0.025	-0.070	-0.047
CCR	0.027	-0.085	0.045	0.144	-0.055	-0.119	-0.119
SSR	0.011	-0.074	0.067	0.060	-0.062	-0.063	0.023
PSSR	-0.182*	-0.060	0.135	-0.197*	-0.006	0.006	0.124
TSSR	0.039	-0.097	0.026	0.009	0.009	0.057	0.032
L_z/D_z	-0.058	0.037	-0.087	-0.023	0.089	0.051	0.007

they differ only in decimal points, for all the need variables except in the case of need for autonomy, on which indirect and moderately direct groups of teachers differ significantly. This would be interpreted to mean that need variables are not related to the index of directness-indirectness in classroom behaviour with the exception in the case of need autonomy.

Further, analysis of the data contained in tables 5.13 and 5.14 carried out to find out relationship of each need variable with each behaviour category and ratio brings out clearly that all correlations, barring a few, are less than 0.2 and none exceeds 0.273. Again, with the exception of about 50 coefficients, most of which are significant at 0.05 level, the bulk of the 495 coefficients have not reached even 0.05 level of significance.

A general conclusion that can be reasonably drawn from this is that needs are, on the whole, in poor relation with different dimensions of teacher's classroom behaviour. The relationship is merely expressive of mild tendency of accompaniment of the two variables.

Now, coming to the analysis of relationship of each individual need variable with different components of behaviour it is noted that need achievement has positive correlation with Cat. 1, PPT and PSSR and negative correlation with PTT. Respective correlations are 0.170, 0.159, 0.174 and -0.160, all significant at .05 level.

Persons, scoring high on need achievement, are expected to do their best. They are successful, they accomplish tasks requiring skill and effort, they may carry on difficult job well and they are able to do things better than others. In the classes of teachers with high n-achievement in comparison to other teachers' classes, pupil participation in class discussion is greater, acceptance of their emotional states and feelings is greater; sustained pupil talk occurs more often and teachers' own talk is found to occur less.

In a nut shell, they give more freedom for student talk. Occurrence of the above categories in the classes of teachers, who score high on need achievement in greater degree than those who are low on need achievement, reflect the likelihood of some association existing between need achievement and indirectness of classroom behaviour.

Need deference is positively related to cat. 5b, SSR, PRT and CCR to the tune of 0.194, 0.175, 0.228 and 0.233 respectively. The first two correlations are significant at 0.05 level and the rest two at 0.01 level. The variable has also a negative correlation of -0.220 with cat. 10a.

Teachers scoring higher on this need conform to custom and avoid the unconventional methods of teaching. From the above pattern of correlations, it appears that in comparison to other teachers they tend to give more lecture and dominate the class with their talk, lay emphasis on content

and are less flexible in their behaviour. Further, they provide lesser opportunity for work oriented silence. In all, they follow conventional method of teaching. These characteristics clearly show that the teachers, who have high need deference behave like direct teachers in several aspects of interaction.

When the correlations of need order scores of the sample with specific categories and ratios are perused, it is found that the variable has correlations of 0.176 ($P < .05$) and 0.273 ($P .01$) with category 1 and cat. 6 and negative correlations of -0.182 and -0.161 with cat. 5b and i/d ratio respectively, both significant at .05 level and of -0.215 with TRR, significant at .01 level. By definition, need order is dominant in those who make plans before starting on a difficult task. They have things arranged so that they run smoothly without change and they keep things neat and orderly.

From these characteristics associated with need order, it can be expected that a teacher having high scores on need order should enforce structure on the classroom discourse. The correlation of 0.273 with cat. 6, i.e., directions, and of -0.215 with teacher response ratio confirm this fact and go to show that a teacher with high need order would be inclined to adopt direct behaviour more often than he adopts indirect behaviour. The negative correlations of this need with i/d, the index of indirectness, and with cat.5b (explanations given by the teacher to facilitate understanding of the points or

facts or concepts under discussion also point to the relation of this need with the directness of behaviour to some extent. Need exhibition has positive correlations of 0.161 and 0.197 respectively with cat. 2 and cat. 3, both significant at .05 level and of 0.211 with cat. 4b, significant at .01 level. This variable has also positive correlations of 0.181, 0.191, 0.166 and 0.161 with i/d ratio, TBQR, TRR and TRR-89.

The above behaviour categories and ratios constitute major dimensions of indirect teaching. The presence of positive correlations with them shows that teachers high on need exhibition have a disposition to praise pupils, extend their ideas, put divergent questions and use responsive behaviour rather than controlling behaviour more than the teachers who are low on exhibition need.

How to interpret these results? Are they in the expected direction? These questions need a consideration of the characteristics of the person with need exhibition.

As per its definition, an individual who scores high on exhibition tends to say witty and clever things, to have others' notice and comment upon one's appearance and to be the center of attention. They ask questions other cannot answer and tell them amusing jokes and stories.

Thus the basic motive underlying need exhibition is to get liked and appreciated by others. For a teacher, this need is instrumental in the establishment of rapport and a

healthy tension-free and cooperative classroom climate. No wonder, therefore, if some of the indirect teacher's behaviour characteristics are found related to the need exhibition in this study.

On need autonomy inspection of the results of differences in mean scores of indirect, moderately direct and direct groups of teachers show that indirect teachers differ significantly with moderately direct teachers as the t value computed between the mean scores of the two groups is 2.514, significant at .05 level. Between indirect-direct and between moderately direct-direct teachers no difference exists on this variable as their respective t values are 1.762 and 0.794 which are insignificant. This would be interpreted to mean that need autonomy is related to the index of directness-indirectness. Means of 14.80, 16.80 and 16.27 for indirect, moderately direct and direct teachers respectively suggest that indirect teachers have lower need autonomy than moderately direct and probably direct teachers.

An examination of relationship with different behaviour categories and ratios of need autonomy show that it has positive correlation of 0.168 with cat.7_c and of 0.162 with PIR both significant at .05 level. Its correlations with I_x/D_x ratios and PSSR are -0.162 and -0.212, the levels of significance being .05 and .01 respectively. Higher scores on need autonomy indicate a person who does things that are unconventional and avoids situations where one is

expected to conform. They do things without regard to what others may think and criticise those in position and authority. They say as they think about the things. In the light of the above, pattern of correlations can be interpreted to mean that a teacher high on need autonomy is likely to criticise the pupils for their poor answers as a result of which pupils may feel obliged to produce unconventional ideas on some occasions and off target remarks and uncooperative behaviour on some. The teacher himself is more direct than indirect in his statements and his pupils more flexible.

Affiliation is found related to cat. 8 ($r = -0.210$, $P < .01$), PPT ($r = -0.175$, $P < .05$) and PIR ($r = 0.178$, $P < .05$).

Affiliation is described as being loyal to friends, to do things with friends etc.

It is perplexing and difficult to explain as to why teachers high on need affiliation have lesser amount of total as well as responsive pupil talk in their classes as compared to those who are low on this variable. This is what is suggested by the negative correlations of behaviour scores of cat. 8 and PPT with scores on need affiliation. May be, their interaction with pupils may not be perceived by them as a source of the satisfaction of this need. Proportion of pupil initiation in their total talk is, however, greater in the classes of these teachers than in those of the teachers with low need affiliation which is as it was expected to be.

Need intraception is found to have positive correlation with cat. 5b and SSR. Respective correlations are 0.192 and 0.161, both significant at .05 level. It also has negative correlation of -0.216 with cat. 4a and of -0.202 with cat. 7_c, both significant at .01 level. It is also correlated to the tune of -0.162, -0.171, -0.167 and -0.174 with TOR, TNOR, TOR-89 and TNOR-89.

Individuals with high scores on this variable are presumed to analyse other's motives and feelings, observe others and analyse their behaviour. They understand how others feel about problems. The main features of behaviour of teachers high on need intraception include more of lecture which is usually sustained, less of questioning and rejection with criticism of pupils responses than those teachers who are lower on need intraception. As a consequence of dominance of lecture accompanied by only a few questions, the ratio of questions (both narrow as well as all types) in the total of their questioning and lecturing behaviour is comparatively less than the same is in the total questioning and lecture behaviour of those teachers who are low on intraception.

These results suggest that need intraception influences a teacher's behaviour giving it a little turn toward directness. As given in description of this need on a previous page the intraceptive person analyses other's motives and feelings which only points towards his use of cognitive ability and

does not mean that he necessarily accepts other's feelings emotionally. This is clear from near zero correlation of this need with cat. 1, 2 and 3. The results are, therefore, not discordant with behavioural definition of need intraception.

Need succorance is found to correlate with cat. 6 to the tune of -0.2 ($P < .01$) and with PSSR to the tune of 0.156 ($P < .05$). These correlations go to show that teachers who score high on need succorance issue directions and commands on fewer occasions than those who get low scores. Further, sustained pupil talk occurs more often in their classes than in the classes of the latter. On the basis of correlation of need succorance with cat.6 alone no conclusion regarding its influence on teacher's classroom behaviour can be conclusively drawn because the percent occurrence of this category in total interaction is quite low and hence not worthy of reliance. At best, one could say that one dimension of teacher behaviour, that is disposition to issue commands, is somewhat affected by need succorance.

Higher scores on need for dominance indicate a person to be leader in groups to which he belongs, who makes group decisions and persuades and influences others to do what he wants. The dominant teachers perceive themselves as leaders and dominate the classroom discourse with their own ideas and provide to students less opportunity to participate in

classroom discussion with the result that the responsive behaviour of students in their classes is less than in the classes of other teachers. It is evident by the negative correlation of -0.161 of need dominance with cat. 8. The correlation is significant at .05 level. Further, this variable has also negative correlation of -0.160 and -0.182 with PPT and PSSR. Both the correlations are significant at .05 level. It suggests that in their classes percent pupil talk and proportion of sustained pupil talk to total pupil talk are less than in the classes of teachers who scored low on need dominance. These results go to show that teachers with high scores on n-dominance exercise direct influence in the classroom. The results are, indeed, in the expected direction.

When the correlations of need abasement with categories and ratios are perused, it is found that the variable does not have any relation with any ratio. However, it is found correlated to cat. 4a, cat.6 and cat. 7c. Respective correlations are 0.197 , 0.195 and 0.177 , all significant at .05 level.

Persons scoring high on need abasement accept blame when things do not go right. They feel the need for punishment for wrong doing and feel depressed by their inability to handle situation.

It appears that teachers who have high need abasement create tension laden atmosphere in the classrooms which, in

turn, makes pupils ill at ease. Consequently, the teachers use control mechanism, i.e., commands and criticism of pupils' responses to overcome the difficulties. For the same reason they put more low level questions. The greater occurrence of these behaviours in their interaction than in the interaction of those teachers who are low on this need, reflects their inability to handle classroom situations with ease and confidence.

Relationship of need abasement with indices of indirect behaviour (Cat. 4a) as also of direct behaviour (cat. 6 and cat. 7_c) leads to the only sensible conclusion that this need is not an efficient predictor of teacher's classroom behaviour.

Now coming to the need nurturance, it is found that cat. 1, cat. 7_c and cat. 9 are related to this variable to the tune of -0.229 ($P < .01$), 0.208 ($P < .01$) and -0.172 ($P < .05$) respectively. This variable has also correlations of -0.185 , 0.180 , 0.157 and -0.196 with i/d ratio, TOR-89, TNOR-89 and FIR.

These patterns of correlations unambiguously indicate that teachers, high on n' nurturance, behave more like direct teachers than indirect teachers. Negative relationship with cat. 1 and cat. 9 and i/d and FIR and positive relationship with cat. 7_c are strong points to this fact. Since people high on this need are of a helping and sympathetic nature in their interpersonal relationship, it is difficult to explain

why teachers with higher n nurturance are more like direct teachers than indirect teachers on the above dimension of behaviour. One possibility is that their behaviour with pupils deviates from their behaviour with persons of equal status like friends because of difference in perception of the two groups of individuals and the interactional contexts.

When the correlations of need change with categories and ratios of teacher behaviour are examined, it is found that the variable is related negatively to the tune of -0.188 ($P < .05$), -0.228 ($P < .01$) and -0.207 ($P < .01$) with categories 3, 4b and 8 and to the tune of -0.188 ($P < .05$), -0.215 ($P < .01$) and -0.197 ($P < .05$) with PPT, TBQR and PSSR.

In the light of these results, it would be just to conclude that in comparison to those teachers who are low on need change the teachers with high need change accept and expand pupil ideas less often, put divergent question less often, permit pupil talk, specially sustained talk less often and use lower ratio of questioning in the aggregate of their questioning and lecturing behaviour. These characteristics suggest that need change influences a teacher's classroom behaviour in respect of a few dimensions of behaviour, giving it a slight tilt towards directness.

Teachers, who scored higher than other teachers on need endurance are those who keep at a job until it is finished. They work hard at a task. They are capable of sticking at a

problem even though it may seem as if no progress is being made. Such teachers are expected to possess positive mode of behaviour and constructive approach. They exert indirect influence rather than direct in comparison with other teachers as indicated by the only correlation of 0.176 of the variable with I_2/D_2 ratio. The correlation is statistically significant at 0.05 level.

The need heterosexuality does not have any relation with teacher behaviour.

Persons, who score higher on need aggression, criticise others publicly, make fun of others and become angry easily. The teachers, scoring higher on this variable, were found to recognize positive and negative emotional reactions of students less than teachers who scored low on aggression. It is evident from the negative correlation of -0.219 ($P < .01$) of this need with cat. 1. Further it is found that in their classes, students created much fuss and talked in chorus more than in the classes of other teachers due to the volatile nature of teacher which is shown by the positive correlation of 0.162 of the need aggression with cat. 10b which represents confusion generated pauses and talk in chorus by the pupils. It would be inferred from these results that teachers high on need aggression are close in their behaviour in respect of the dimensions of recognition of pupils emotions and feelings and unproductive silence and confusion to direct teachers.

In the light of the above discussion one may safely

conclude that the behaviour of teachers scoring high on n-ach, n-exh, n-end is very close to indirectness, and the needs like n-aff, n-succ, n-aba and n-het do not have any impact on teacher's behaviour, whereas the majority of needs namely n-def, n-ord, n-aut, -int, n-dom, n-nur, n-chg and n-agg tilt teacher's behaviour towards directness. (For need scores see appendix 9).

SECTION D

Temperament and Teacher Behaviour

Analysis of data about temperament as contained in table 5.15 and Group G₉ reveal that indirect, moderately direct and direct groups of teachers are not differentiable on any of the seven temperamental traits. The t values computed to test the significance of difference between the three groups' mean score of each of the seven dimensions of temperament were all found statistically not significant even at .05 level. This would be interpreted to mean that temperament is not related to the index of indirectness-directness of the secondary school teachers.

These results are quite in agreement with the findings of Qureshi (1972), who found that direct and indirect groups of teachers did not differ on the seven personality (temperamental)

Table 5.15

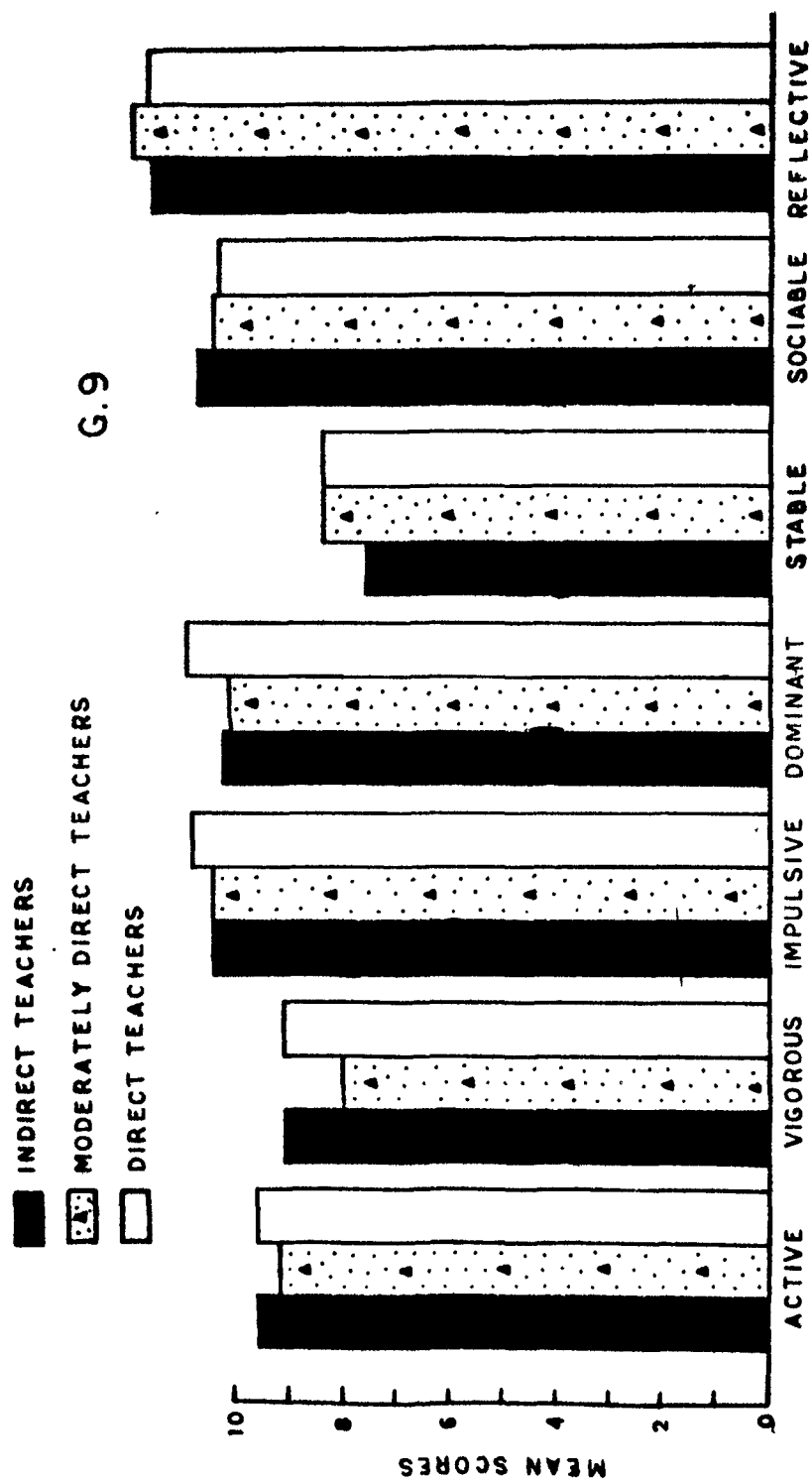
Results of Bartlett's Test for the Homogeneity of Variance and
t Test Between the Mean of Groups on Temperament

Tempera- ment	Groups of teachers	Sum of scores	Mean	S.D.	Homogeneity Test		t Values	
					χ^2	Level of Sig.	Indirect	Moderately Direct
ACTIVE	Indirect	190.0	9.50	2.351				
	Moderately Direct	404.0	9.18	2.617	0.637	N.S.	-0.484	
	Direct	341.0	8.52	2.331			-1.519	-1.216
VIGOROUS	Indirect	180.0	9.00	2.902				
	Moderately Direct	349.0	7.93	3.902	2.327	N.S.	-1.220	
	Direct	362.0	9.05	3.869			0.056	1.317
IMPULSIVE	Indirect	206.0	10.30	2.452				
	Moderately Direct	455.0	10.34	3.147	1.617	N.S.	0.056	
	Direct	429.0	10.73	2.828			0.601	0.589
DOMINANT	Indirect	203.0	10.15	2.134				
	Moderately Direct	442.0	10.05	2.778	2.00	N.S.	-0.165	
	Direct	432.0	10.80	2.399			1.066	1.335

(Contd.)

Table 5.15 (Contd.)

STABLE	Indirect	150.0	7.50	2.039			
	Moderately Direct	368.0	8.36	2.344	1.224	N.S.	1.497
	Direct	332.0	8.30	1.990			1.444
							-0.135
SOCIAL	Indirect	213.0	10.65	2.560			
	Moderately Direct	456.0	10.36	2.989	9.064	0.05	-0.371
	Direct	408.0	10.20	1.897			-0.769
							-0.296
REFLECTIVE	Indirect	229.0	11.45	2.665			
	Moderately Direct	519.0	11.80	2.874	0.213	N.S.	0.469
	Direct	462.0	11.55	2.917			0.133
							-0.388



Mean scores of indirect, Moderately direct and Direct teachers on Temperament variable

Table 5.16

Correlation of Categories With Temperament

Temperament	Cat. 1	Cat. 2	Cat. 3	Cat. 4a	Cat. 4b	Cat. 5a	Cat. 5b	Cat. 6	Cat. 7a	Cat. 7c	Cat. 7f	Cat. 8	Cat. 9	Cat. 10a	Cat. 10b
ACT	-0.023	0.250**	0.214**	0.177*	0.015	-0.055	-0.193*	0.127	0.063	0.032	-0.132	-0.013	0.109	0.146	0.126
VIG	-0.123	0.082	-0.012	-0.079	-0.048	0.059	0.023	-0.074	-0.040	-0.169*	0.005	-0.042	0.018	0.007	0.039
IMP	-0.096	0.142	0.068	-0.072	-0.061	-0.084	0.108	-0.017	0.028	-0.287**	-0.022	-0.083	0.058	0.050	-0.044
DOM	-0.122	0.057	-0.088	-0.060	-0.117	0.133	-0.029	-0.010	0.057	-0.224**	0.154	0.001	-0.049	0.039	0.144
STA	-0.228**	-0.128	-0.070	-0.124	-0.041	0.060	-0.003	0.041	0.078	-0.048	0.174*	0.093	0.197*	0.034	-0.120
SOCI	-0.039	0.164*	0.232**	0.132	0.097	0.087	-0.086	0.100	0.053	-0.294**	0.010	0.050	-0.092	-0.039	0.053
REF	0.056	0.140	0.062	0.021	0.133	-0.016	-0.021	-0.006	-0.066	-0.031	-0.130	-0.030	-0.024	0.038	0.151

* Significant at .05 level.

** Significant at .01 level.

Table 5.17

Correlation of Ratios With Temperament

Temperament	I/D	I/a	$1z/D_2$	PIT	PPT	TQR	TNQR	TBOR	TRR
ACT	0.147	0.073	0.070	-0.135	0.007	0.152	0.159*	0.026	0.245**
VIG	0.063	0.032	0.094	0.11	-0.038	-0.007	-0.008	0.001	0.145
IMP	-0.035	0.092	0.009	0.034	-0.084	-0.058	-0.051	-0.068	0.206**
DOM	-0.031	-0.052	0.012	-0.038	-0.017	-0.068	-0.056	-0.107	-0.004
STA	-0.159*	0.016	-0.116	-0.127	0.151	-0.131	-0.127	-0.083	-0.073
SOC	0.123	0.034	0.154	0.029	0.022	0.105	0.097	0.094	0.184*
REF	0.040	0.122	-0.066	-0.004	-0.047	-0.009	-0.026	0.1022	0.126

* Significant at .05 level.

** Significant at .01 level.

(Contd.)

Table 5.17 (Contd.)

Tempor- ament	TRR-80	TOR-89	TNOR-89	TBOR-89	PIR	CCR	PSSR	TSSR	SSR
ACT	0.253**	0.081	0.094	-0.024	-0.068	-0.190*	-0.124	-0.213**	-0.210**
VIG	0.147	-0.122	-0.108	-0.070	0.117	0.029	-0.120	-0.040	-0.019
IMP	0.233**	-0.071	-0.084	0.025	0.147	0.037	-0.099	0.067	0.071
DOM	-0.005	-0.077	-0.075	-0.022	0.034	-0.011	-0.018	-0.019	-0.045
STA	-0.136	-0.144	-0.138	-0.052	0.094	-0.088	0.145	-0.011	-0.096
SOC	0.154	0.176*	0.148	0.126	-0.083	-0.016	-0.024	-0.083	-0.048
REF	0.177*	0.030	0.009	0.074	-0.028	-0.016	-0.072	-0.029	-0.079

traits and concluded that personality does not affect teacher behaviour. The study has been reviewed in details in Chapter II.

When further analysis of the data was carried out in order to find out the relationship of each temperamental trait with different behaviour categories and ratios as in tables 5.16 and 5.17, it was revealed that active temperament has positive correlation of 0.250 and 0.214, significant at .01 level with cat. 2 and cat. 3, and correlation of 0.177 with cat.4a, significant at .05 level. This trait is found to have negative correlation of 0.193 with cat. 5b, significant at .05 level. These results of suggest that the teachers who scored high in the area/"active" temperament praise and encourage students, motivate them, build their ideas on pupils ideas, extend and incorporate their ideas into their lecture, put narrow questions more and give lesser amount of lecture than teachers having lower degree of "active" trait.

A look at table 5.17 shows that active temperament has positive correlations of 0.245 and 0.253 with TRR and TRR-89; both the correlations are significant at .01 level and a correlation of 0.159 with TNQR, significant at .05 level. The trait, on the other hand, is found to have negative correlation of 0.190 with CCR, significant at .05 level and 0.213 and 0.210 with TSSR and SSR respectively, both significant at .01 level.

These statistics suggest that active teachers react to the students in a non-aggressive manner and exhibit positive mode of

response to student talk to a larger extent. They prefer to put narrow questions more than lecturing and give less emphasis to content. They are flexible in their behaviour.

The results are in the expected direction as the teachers, who score high on this trait, are those who tend to hurry and speak, write, move and work rapidly. It is, therefore, not unexpected that they put short questions, lecture less, give less emphasis to content, are flexible and motivate their pupils more than those who possess a lower degree of this trait. These results of the study are in accord with the findings of Jones (1956) who found a correlation of 0.46 between "general activity" and "composite criteria of teaching success" and conclude that "good teachers would appear to be characterized as liking rapid pace rather than a slow and deliberate one. They may be further characterized as having a liking for quickness of action and production of efficiency."

Vigorous temperament is not found to have significant correlation with any of the aspects of teacher behaviour except with cat. 7_c with which it is related to the tune of -0.169 ($P < .05$). Teachers with high scores on this trait are presumed to possess sportsman spirit. No wonder, therefore, if they dislike rejection accompanied by criticism of pupils' failure to supply correct responses to questions.

Higher scores on impulsive temperament indicate a happy-go-lucky, dare-devil, care-free type teacher. They make quick

decisions enjoy competitions and change easily from one talk to another. Impulsive temperament scores have positive correlation of 0.206 and 0.233 with TRR and TRR-89 and negative correlation of 0.287 with category 7_c , all significant at .01 level. There appears a comparability between the properties of the trait and the behaviour expressed by the teachers possessing the trait. Impulsive teachers perceive themselves as more positive and hence may operate in the classroom at a lower level of anxiety which might enable them to react to student talk in a non-aggressive manner and to exhibit positive mode of response to student talk as is evident from positive correlation of this trait with teacher response ratio (TRR and TRR-89) and negative correlation with 'rejection with criticism' (7_c) behaviour.

Teachers possessing dominant temperament are capable of taking initiation and responsibility, organize social activities, promote new projects and persuade others. Such teachers tactfully handle their students and do not react to their wrong responses with fret and criticism. The negative correlation of the trait with cat. 7_c which is -0.224 ($P < .01$) shows that teachers of dominant temperament should have used 7_c category less than those who lacked this trait.

Stable temperament scores have negative correlation of 0.228 and 0.159 with cat. 1 and I/D ratio. Respective levels of significance of these coefficients are .01 and .05. This trait has, on the other hand, positive correlation of 0.174 and 0.197

with cat. 7_p and cat. 9; both the correlations are significant at .05 level.

Teachers possessing stable temperament are usually cheerful and have an even disposition. They do not fret about daily chores and do not feel irritation when interrupted while concentrating. Such teachers are expected to provide corrective feedback to the wrong responses of students and give them an opportunity of initiation as has been found by positive relationship of stable temperament with cat. 7_p and cat. 9. Occurrence of negative correlation with cat. 1 may not be taken seriously as teachers, in general, are found to use this category to a negligible degree. But negative relation of this trait with I/D is, indeed, unexpected. The investigator expected that stable teachers would exhibit indirect influence more than direct influence. Why it is not borne out by the results of the study is perplexing. It is possible that, despite the dominance of motivational behaviour over controlling behaviour, disproportionately higher occurrence of lecture might have tilted the balance in favour of directness.

Persons with high scores on sociable temperament enjoy the company of others, make friends easily and are sympathetic, cooperative and agreeable in their relations with others. Scores of sociable temperament have been found to correlate with cat. 2 to the tune of +0.164 ($P < .05$) and with cat. 3 to the tune of +0.232 ($P < .01$). They also have negative correlation

with cat. 7_c whose magnitude is -0.294 and significance level .01. These correlations go to show that teachers possessing sociable temperament exhibit a tendency to motivate, praise and encourage students, extend their ideas and integrate them with their own ideas. Such teachers prefer not to criticise students even when the latter give unacceptable responses. Sociable trait has also positive correlation of 0.184 and 0.176 with TRR and TOR-89, both significant at .05 level, which suggests that in the aggregate of their supportive and restrictive behaviour, the proportion of supportive behaviour exceeds the proportion in similar behaviour of those teachers who are not sociable. Likewise, in the total of lecture and questioning used by teachers at the end of pupil talk, the share of questions is more in case of sociable teachers than others. These results are quite in the expected direction as the behaviours found related to sociability are logically the allies of the properties of the trait.

TRR-89 is positively related to reflective temperament, the correlation being 0.177 ($P < .05$). An individual who scores high on reflective trait, enjoys dealing with theoretical rather than practical problems. These people are usually quiet; work alone and enjoy work that requires accuracy and fine details. From positive correlation of this trait with TRR-89, it would be expected that the proportion of motivation in total motivational and control behaviour of reflective,

teachers would be higher than the same in non-reflective teachers. (For temperament scores see appendix 10).

SECTION E

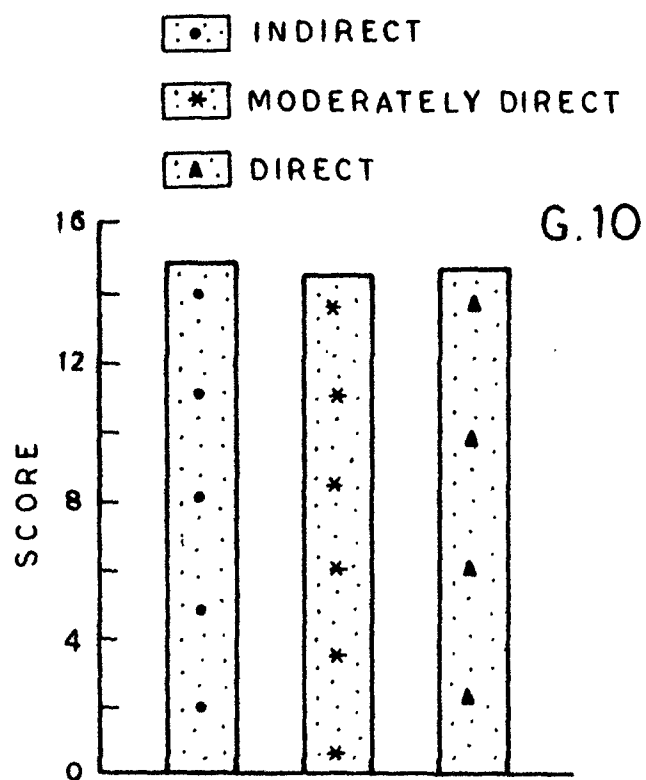
Academic Career and Teacher Behaviour

A comparison of indirect, moderately direct and direct groups of teachers on the basis of their respective mean scores of academic career contained in table 5.18 and graph G₁₀ reveals that the three groups of teachers do not differ significantly from one another on this variable. Mean scores of 14.80, 14.50 and 13.60 for indirect, moderately direct and direct teachers are very close to each other and their respective t values of 0.271, 1.049 and 0.817 are found statistically insignificant. When further analysis regarding correlation of academic career scores with categories and ratios of teacher behaviour contained in tables 5.19 and 5.20 is examined, it is noticed that academic career of teachers does not correlate with any of the characteristics of teacher behaviour except cat. 7_F, rejection with corrective feed back, which has a negative correlation of -0.164 significant at .05 level. This shows that teachers having better academic careers than others do not provide as much corrective feedback to the students while rejecting their wrong responses as the other teachers do.

Table 5.18

RESULTS OF BARTILLET'S TEST FOR THE HOMOGENEITY OF
VARIANCE AND t TEST BETWEEN THE MEANS OF SCORES
OF ACADEMIC CAREER OF THE THREE GROUPS

Variable	Groups of teachers	Sum of scores	Mean	S.D.	Homogeneity test		t-Values	
					χ^2	Level of sig.	Indirect	Moderately direct
	Indirect	296.0	14.80	3.636				
	Moderately Direct	638.0	14.50	4.986	2.868	N.S.	0.271	
	Direct	544.0	13.60	5.093			1.049	0.817
	.							



Mean scores of indirect, Moderately direct and Direct teachers on Academic career

Table 5.19

**Correlation of Categories with Academic Career
of Teachers**

Categories	Correlation	Categories	Correlation
1	-0.044	6	-0.123
2	0.066	7a	-0.042
3	0.128	7c	0.089
4a	0.081	7F	-0.164*
4b	0.145	8	-0.088
5a	-0.020	9	-0.088
5b	0.080	10a	-0.090
		10b	-0.028

*Significant at .05 level.

Table 5.20

**Correlation of Ratios with Academic Career of
Teachers**

Ratio	Correlation	Ratio	Correlation
I/D	0.093	TRR-89	0.141
I/d	0.079	TOR-89	0.094
I2/D2	0.121	TNOR-89	0.076
PTT	0.155	TBOR-89	0.080
PPT	-0.097	PIR	0.043
TOR	0.078	CCR	0.118
TNOR	0.058	SSR	0.096
TBOR	0.155	PSSR	-0.091
TRR	0.129	TSSR	0.017

In the light of the above findings, one can safely conclude that academic career does not influence teacher behaviour. The findings of the study confirm results of some of the studies and contradict those of others which have been reported in the chapter of related studies. (Ch.II). (For academic career scores see Appendix 11).

SECTION F

Job Adjustment And Teacher Behaviour

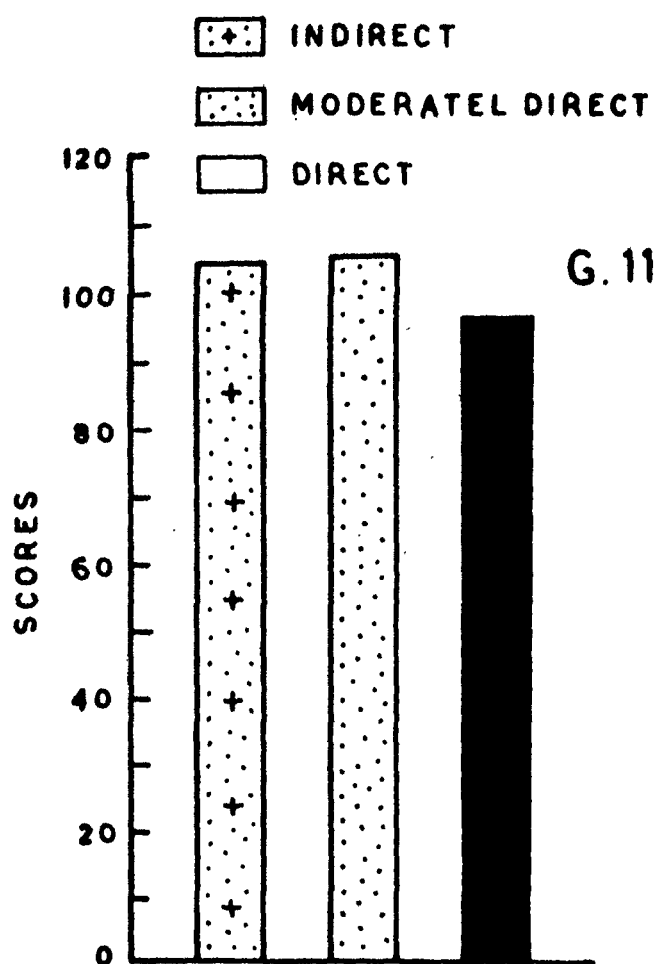
When the results of the comparison of indirect, moderately direct and direct teachers on job adjustment as contained in table 5.12 and graph G₁₁ are perused it is found that moderately direct teachers differ significantly from direct teachers. The difference between indirect and direct teachers also reaches very close to significance level. The mean job adjustment scores of the indirect, moderately direct and direct teachers are 104, 105 and 96 respectively and the respective t values computed between the mean scores of indirect moderately direct, and indirect-direct groups are 0.308 and 1.539 which are not significant, t value between moderately direct and direct groups is 2.555 which is significant at .05 level. The respective means of the three groups suggest that indirect and moderately direct teachers draw more or less the same degree of satisfaction from

Table 5.21

Results of Bartlett's Test for the Homogeneity of
Variance and t Values Between Mean Scores of
the Groups on Job Adjustment

Variable	Groups of teachers	Sum of scores	Mean	S.D.	Homogeneity test		t Values	
					χ^2	Level of sig.	Indirect	Moderately Direct
Job Adjustment	Indirect	2,080.0	104.0	18.041				
	Moderately Direct	4,639.0	105.0	15.367	0.716	N.S.	0.308	
	Direct	3,867.0	96.0	15.977			1.539	2.555*

* Significant at .05 level.



Mean scores of indirect, Moderately direct and Direct teachers on job adjustment

Table 5.22

Correlations of Categories with Job Adjustment
of Teachers

Categories	Correlation	Categories	Correlation
1	0.201 **	6	0.179 *
2	0.089	7 _B	0.070
3	0.112	7 _C	0.113
4a	0.190 *	7 _F	-0.090
4b	-0.072	8	-0.016
5a	0.022	9	-0.032
5b	-0.181 *	10a	0.075
		10b	0.052

* Significant at .05 level.

** Significant at .01 level.

Table 5.23

Correlation of Ratios with Job Adjustment of
Teachers

Ratios	Correlation	Ratios	Correlation
I/D	0.052	TRR-89	0.092
1/d	0.027	TQR-89	0.103
I ₂ /D ₂	-0.061	TNQR-89	0.144
PTT	-0.062	TBOR-89	-0.109
PPT	-0.021	PIR	-0.144
TQR	0.079	CCR	-0.199
TNQR	0.103	SSR	-0.152
TBOR	-0.111	PSSR	-0.046
TRR	0.092	TSSR	-0.156 *

* Significant at .05 level.

their job. But direct teachers do not feel as much satisfied as the other two groups do. Interpreted differently, the results indicate that there exists a relationship between job adjustment and the index of indirectness-directness of teacher behaviour. The data to study relationship of job adjustment scores with teacher behaviour in each separate category and with computed behaviour ratios is analysed in tables 5.22 and 5.23. It shows that category 1 is positively correlated with the job adjustment of teachers, the correlation being 0.201, significant at .01 level. The result reveals that the teachers, who are well adjusted in their job, do recognize and understand both positive and negative emotional reactions of their pupils. They put narrow questions more frequently and lecture less than teachers having lower degree of job adjustment, which is evident from the respective positive correlation of 0.190 with cat. 4a and negative correlation of -0.181 with cat. 5a. These coefficients of correlation are significant at .05 level.

Category 6 has also a positive correlation with the job adjustment of teachers. This reveals that well adjusted teachers give more direction and commands than the rest of the teachers. As has been discussed earlier, commands (cat. 6) are an outcome of the questioning behaviour of teachers. So, well adjusted teachers by virtue of their questioning behaviour make use of commands and direction to the students more than teachers having lower degree of adjustment in their job.

No ratio of teacher behaviour was found to have any significant correlation with job adjustment except TSSR, which has a negative correlation of -0.156 , significant at .05 level. The result reveals that well adjusted teachers are more flexible in their behaviour than teachers having a lower degree of adjustment in their job. It leads to the conclusion that indirect teachers are more satisfied with teaching than are direct teachers. This is fully supported by the result of differences in mean job-adjustment scores as contained in table 5.12. These conclusions are not unique to this study. Other studies such as those of Malhotra, S.P. (1976) and S.K. Singh and R.A. Sharma (1977) also found that well adjusted or satisfied teachers are indirect in their behaviour whereas poorly adjusted or unsatisfied teachers are direct in their approach to classroom instruction and that cat. 1 and cat. 4 are positively related to teaching attitude and cat. 5 negatively. (For job adjustment scores see appendix 12).

Chapter 6

SUMMARY OF FINDINGS AND CONCLUSIONS

This chapter presents a condensed account of the study and its findings. It is, therefore, primarily a synoptic rerun of all critical elements of the report. Though recapitulation is done in a more concise and generalized manner, yet clarity and scientific accuracy is not sacrificed at the cost of brevity.

TITLE OF THE PROBLEM

The specific problem selected for investigation reads: "A study of relationship between personal values, needs, job adjustment, temperament and academic career of secondary school teachers with their teaching behaviour".

PURPOSE OF THE STUDY

The purpose of the study ~~is general one~~ to find out the relationship of teacher characteristics like temperament, values, needs, academic career and job adjustment of secondary school teachers with their teaching behaviour.

A secondary objective concerned modification of Flanders interaction analysis category system through the splitting of some categories for more accurate coding of behaviour and

development of a new more meaningful ratio for identifying direct and indirect teachers.

The study sought to find answers to the following specific questions:

1. What is the general pattern of classroom behaviour of secondary school teachers teaching different subject areas, observed during the study?
2. What are the specific features of the classroom behaviour of secondary school teachers?
3. How do indirect, moderately direct and direct teachers differ from each other on different categories, segments and ratios of teacher behaviour?
4. How do indirect, moderately direct, and direct teachers differ from each other on their personal values?
5. How do indirect, moderately direct and direct teachers differ from each other on their manifest needs?
6. How do indirect, moderately direct and direct teachers differ from each other on their temperamental traits?
7. How do indirect, moderately direct and direct teachers differ from each other in regard to their academic career?
8. How do indirect, moderately direct and direct teachers differ from each other on their adjustment in the job?
9. Is there any relationship between categories and ratios of teacher behaviour and their personal values?
10. Is there any relationship between categories and ratios of teacher behaviour and their manifest needs?

11. Is there any relationship between categories and ratios of teacher behaviour and their temperament?
12. Is there any relationship between categories and ratios of teacher behaviour and their academic career?
13. Is there any relationship between categories and ratios of teacher behaviour and their adjustment in the job?

SAMPLE OF THE STUDY

(The sample of the main study consisted of 200 teachers selected from Higher Secondary Schools of five districts of Uttar Pradesh. These districts are Aligarh, Bijnor, Bulandshahr, Gorakhpur and Meerut. As has been discussed in Chapter III, teachers included in the study formed a cross-section of the higher secondary schools of Uttar Pradesh, and roughly constitute a random group in so far as the factors that go to influence the results and introduce bias in them are concerned. School-wise, management-wise, experience-wise and subject area-wise distribution of sample is presented in tables 3.1 to 3.4.

Sample for the development of occupational adjustment Inventory is comprised of 43 language, 69 science and 38 arts teachers. In all, there are 150 teachers (108 men and 42 women) from 8 schools, two selected from each of the four districts of Aligarh, Bijnor, Bulandshahr and Meerut of Uttar Pradesh. District-wise, school-wise and subject area-wise distribution is presented in the table 3.5, and characteristics of the sample for main study

as well as for the development of Occupational Adjustment Inventory are presented in table 3.6.

TOOLS USED

In the present study teacher's classroom behaviour is the dependent variable and values, needs, temperament, academic career and job adjustment are independent variables. These variables are measured with the help of the following tools:

1. Value test developed by Dr. R.K. Ojha for assessing secondary school teachers' value.
2. Personal Preference Schedule developed by Tripathi for measuring their needs.
3. Temperament schedule constructed by Thurstone for getting data about temperament.
4. Job adjustment scale developed by the investigator to get data about job adjustment.
5. Information regarding academic career was obtained from teacher's service record and a questionnaire constructed by the investigator.
6. Data about teacher's classroom behaviour was gathered by using Flanders interaction analysis category system which was modified by the investigator.

IDENTIFICATION OF DIRECT AND INDIRECT TEACHERS

Identification of direct and indirect teachers is based on the revised I_z/D_z ratio developed by the investigator which is

$$I_z/D_z = \frac{\text{Cat } (1+2+3+4a+4b+7r)}{\text{cat } (6+7c)}$$

Limitations in Flanders' I/D and i/d ratios and rationale of the above modified I_z/D_z ratio have been discussed in Chapter IV.

HYPOTHESES

Hypotheses of this study are framed in the light of the theoretical framework developed in chapter I and review of related studies reported in chapter II.

The hypotheses were converted into null form for statistical testing. They are given below:

1. There exists no significant relationship between over all index of indirectness-directness and motivational behaviour of teachers as found through difference in mean scores in motivational categories of indirect, moderately direct and direct teachers.
2. There exists no significant relationship between over all index of indirectness-directness and questioning behaviour of teachers as found through difference in mean scores in questioning categories of indirect, moderately direct and direct teachers.

3. There exists no significant relationship between over all index of indirectness-directness and lecturing behaviour of teachers as found through difference in mean scores in lecturing category of indirect, moderately direct and direct teachers.
4. There exists no significant relationship between over all index of indirectness-directness and rejectant behaviour of teachers as found through difference in mean scores in rejectant categories of indirect, moderately direct and direct teachers.
5. There exists no significant relationship between over-all index of indirectness-directness and controlling behaviour of teachers as found through difference in mean scores in controlling categories of indirect, moderately direct and direct teachers.
6. There exists no significant relationship between over-all index of indirectness-directness and pupil's participating behaviour in classroom discussions as found through difference in mean scores in pupil's participating categories, in the classes of indirect, moderately direct and direct teachers.
7. There exists no significant relationship between over-all index of indirectness-directness and silence in the classroom as found through difference in mean scores in silence categories in the classrooms of indirect, moderately direct and direct teachers.
8. There exists no significant relationship between over-all index of indirectness-directness and personal values of teachers as found through difference in mean scores of values of indirect, moderately direct and direct teachers.

9. There exists no significant relationship between specific dimensions of teacher behaviour and personal values of teachers.
10. There exists no significant relationship between over-all index of indirectness-directness and needs of teachers as found through difference in mean scores of needs of indirect, moderately direct and direct teachers.
11. There exists no significant relationship between specific dimensions of teacher behaviour and needs of teachers.
12. There exists no significant relationship between over-all index of indirectness-directness and the temperament of teachers as found through difference in mean scores of temperament of indirect, moderately direct and direct teachers.
13. There exists no significant relationship between specific dimensions of teacher behaviour and temperament of teachers.
14. There exists no significant relationship between over-all index of indirectness-directness and academic career of teachers as found through difference in mean scores of academic career of indirect, moderately direct and direct teachers.
15. There exists no significant relationship between specific dimensions of teacher behaviour and academic career of teachers.
16. There exists no significant relationship between over-all index of indirectness-directness and job adjustment of teachers as found through difference in mean scores of job adjustment of indirect, moderately direct and direct teachers.

17. There exists no significant relationship between specific dimensions of teacher behaviour and job adjustment of teachers.

MAJOR FINDINGS

(A) General and special features of teachers' classroom behaviour.

1. Secondary school teachers, generally, consider it unnecessary to accept feelings and emotional states of pupils (cat. 1). Only 0.016 per cent of the total interaction time is found to be spent in this behaviour.
2. Supportive activities like praise and encouragement and tension releasing acts such as jokes etc. (cat. 2) consumed 2.763 per cent of the total interaction time.
3. Teachers were found to expand and build upon pupil ideas (cat. 3) for about 1.78 per cent of their total time of interaction. These acts generally followed acts of praise of pupil responses and were more often of sustained nature.
4. In all, teacher behaviour, which motivates and supports pupils to open up (cat. 1+2+3), took 4.557 per cent of the total interaction time.
5. 8.442 per cent of the total classroom interaction time is devoted by the teachers to questioning (cat. 4). Questions were mostly factual relating to content or procedure. Thought provoking questions were found to occur 1/13 times less than narrow questions.
6. Secondary school teacher's classroom behaviour was predominantly marked by lecture which took as much as 46.343

per cent or a little less than half of their total time in the classroom. In this, the share of reading from the books (cat. 5a) and of imparting information, opening and explaining (cat. 5b) was respectively 7.951 % and 38.794 %.

7. Directions and commands by the teacher (cat. 6) consumed 3.318 per cent of total interaction time.
8. Three types of rejectant behaviours, viz., rejection without any comment (cat. 7_s) rejection with criticism (cat. 7_c) and rejection with corrective feed back (cat. 7_f), respectively, consumed 0.420 per cent, 0.882 per cent and 0.675 per cent of the total interaction time. Total rejectant behaviour was found to be 1.978 per cent.
9. In all, teacher acts which control or inhibit pupil freedom and participation in classroom discourse (cat. 6+7) consumed 4.621 per cent of the total interaction time which was more or less the same in amount as their motivating behaviour.
10. As against the teachers who spent in all 64.642 per cent of total interaction time in their own talk (cat. 1 to 7), pupils talked only 15.777 per cent of the total time (cat. 8+9). Out of it, 13.152 per cent talk was found responsive in nature (cat. 8). Pupil initiation was thus as low as 2.624 per cent (cat. 9) which shows that the quality of classroom discussion in secondary schools is generally poor and non-creative.
11. Teacher pupil interaction in this study was found to contain 19.58 per cent of silence (cat. 10) when none talked. However, for most of the time it was utilised for productive work (cat. 10a). Only 0.012 per cent of

the time was wasted in silence arising out of confusion and the like.

12. In general teachers' verbal behaviour took in all about 2/3rd of the total interaction time, pupils behaviour 1/6th of it and silence about 1/5th of it.
13. The modified ratio of indirect to direct behaviour (I_z/D_z) and i/d ratio computed in respect of the teachers as a whole came to be 0.321 and 0.961 respectively which shows that secondary school teachers mostly exercise direct influence in the classroom.
14. Teachers used statements of control and rejection more often than statements of praise and approval of pupil ideas in total interaction which is evidenced from the value of 46.243 of TRR.
15. The termination of pupils' talk was generally followed by facilitative behaviour which is evident from the value of 58.439 for TRR-89.
16. The teachers generally adopted lecturing rather than questioning as the main tool of communication. In the total of the two behaviours namely lecturing and questioning, the latter's share is only 41.6 per cent.
17. The same result appeared from the analysis of per cent of questioning in the total of questioning and lecturing behaviour after the termination of pupil talk (TOR-89) in which too questioning is 42.562 per cent.
18. 83.365 per cent of total pupil talk was made in response to teacher's questions and commands, the value of FIR being 16.635.

19. One third of the pupil talk was characterized by sustained talk (PSSR = 36.506). In other words, pupils talked more than three seconds at a time for more than 1/3rd of the total time of their talk.
20. In the total interactional events 2,377 and 1,025 events were found to occur in (4a-10a) and (10a-8) cells which suggest that pupils were given time on many occasions by the teacher to think and organize their answers before giving them out.
21. The teachers as a whole devoted a little more than half of the time to the discussion of the subject matter which is evident by the value of CCR which was found to be 54.787 per cent.
22. It was found that the teachers are, generally, somewhat less flexible in their behaviour than Flanders' norm expectation of 52.0 %. It was evident from the value of SSR which came to be 55.067 %.

(B) Comparison of Indirect, Moderately Direct and Direct Teachers on General and Special Features of Classroom Behaviour.

The teachers of this study have been classified into three groups, viz., indirect, moderately direct and direct. The criterion used for such classification is discussed in the previous chapter. Category-wise, ratio-wise and segment-wise analysis of teacher behaviour for the three groups is provided in table 5.50. Major findings that emerged from comparison of the three groups are as follows:

1. Indirect teachers were found to praise and encourage their students (cat. 2) significantly more than moderately direct teachers and moderately direct teachers significantly more than direct teachers, the mean scores for the three groups respectively being 51.80, 33.59 and 8.63.
2. The direct group of teachers was found to accept pupil ideas and to expand them (cat. 3) on significantly lesser occasions than the other two groups both of which used this behaviour in about the same amount. Again the latter two groups were found to take longer time in integrating pupil ideas in class discourse more often than the former group (cell 3-3).
3. The three groups differed significantly from one another in regard to the use of over-all motivational behaviour (cat. 1,2,3). Mean scores of indirect, moderately direct and direct teachers on this behaviour are 83.25, 56.75 and 13.10 respectively, which indicate that indirect teachers exhibit facilitative behaviour and encourage pupil participation in class discourse more often than the other two groups and direct teachers do so least of the three.

above

In the light of the / findings hypothesis (No. 1) which states that there exists no significant relationship between over-all index of indirectness-directness and motivational behaviour of teachers as found through difference in mean scores in motivational categories of indirect, moderately direct and direct teachers is not found maintainable.

4. On narrow questioning, behaviour represented by cat. 4a, the three groups have significant differences among one another. The indirect group put $1\frac{1}{2}$ times more questions than the moderately direct group and 5 times more than the direct group.

However, on thought provoking questions (cat. 4b), indirect and moderately direct teachers were found similar whereas both groups differed significantly from direct group which put fewer questions than these groups.

5. On total questioning behaviour, the three groups were again found to differ significantly, the indirect group adopting questioning technique about $1\frac{1}{2}$ times more than the moderately direct group and the moderately direct group about 4 times more than the direct group.

Thus the hypothesis (No.2) of the study which says that there exists no significant relationship between over-all index of indirectness-directness and questioning behaviour of teachers as found through difference in mean scores in questioning categories of indirect, moderately direct and direct teachers, is rejected.

6. Direct teachers were observed taking recourse to book reading on significantly more occasions than indirect teachers. It was also noted that they deliver much more lectures than moderately direct teachers and moderately direct teachers much more than indirect teachers, the ratios being roughly 4:3:1.

In the light of the above findings, the hypothesis (No.3) which states that there exists no significant relationship between over-all index of indirectness-directness and lecturing

behaviour of teachers, as found through difference in mean scores in lecturing category of indirect, moderately direct and direct teachers, is rejected.

7. Classroom interaction of indirect and moderately direct teachers was marked by issuance of more commands and directions (cat. 6) than that of direct teachers.
8. Indirect teachers were found to reject wrong responses of students without any comment (cat. 7_s) a little more than two times more than moderately direct teachers and moderately direct teachers a little more than two times more than direct teachers.
9. On the other two rejectant behaviours, which are rejection with criticism (cat. 7_c) and rejection with corrective feed back (cat. 7_p), the three groups were not found differentiable.

In the light of the above findings, hypothesis (No.4), which states that there exists no significant relationship between over-all index of indirectness-directness and rejectant behaviour of teachers, as found through difference in mean scores in rejectant categories of indirect, moderately direct and direct teachers, is partially true.

10. The study reveals that controlling behaviour as a whole (cat 6+7) is used by indirect and moderately direct teachers on significantly more occasions than direct teachers, but when the same behaviour was examined in the context of their respective motivational behaviour, the following ratio emerged:

(Cat.1+2+3) : (Cat. 6 + 7)

Indirect teachers	4 : 1
Moderately direct teachers	3 : 1
Direct teachers	1.4 : 1

From these ratios, it is revealed that although indirect teachers used controlling behaviour some what more than direct teachers, they used motivational behaviour, too, much more than the latter group.

Thus, the hypothesis (No.5) which states that there exists no significant relationship between over-all index of indirectness-directness and controlling behaviour of teachers, as found through difference in mean scores in controlling categories of indirect, moderately direct and direct teachers, is rejected.

11. Teacher elicited response by pupil (cat. 8) was found to occur most in indirect teachers' classes and least in direct teachers' classes.
12. Incidence of pupil initiated talk (cat.9) was found significantly less in indirect teachers' classes than in the classes of the other two groups of teachers.
13. The three groups of teachers differed significantly from one another on total pupil talk (cat. 8, 9). It is revealed that indirect teachers gave students about $1\frac{1}{2}$ times and 2 times more opportunity to talk than moderately direct and direct teachers respectively.

In the light of the above findings, the hypothesis (No.6) which states that there exists no significant relationship

between over all index of indirectness-directness and pupils' participating behaviour in classroom discussions, as found through difference in mean scores in pupils' participating categories in the classes of indirect, moderately direct and direct teachers, is rejected.

14. On work oriented silence (cat. 10a), significant differences were found to exist between indirect and direct groups of teachers. Indirect teachers gave roughly $1\frac{1}{2}$ times more time to such activities as demonstration, black-board work and thinking pauses between questions and their answers etc. than the direct teachers.
15. In regard to behaviour in (cat. 10b), non-productive silence, all the three groups were found alike.

Thus, the hypothesis (no.7) which states that there exists no significant relationship between over all index of indirectness-directness and silence in the classroom as found through difference in mean scores in silence categories, in the classrooms of indirect, moderately direct and direct teachers, is found partially true.

16. Direct teachers were found to issue less than 50 % statements of motivation in the total of motivational and controlling statements (TRR), the incidence being significantly less than in case of the other two groups of teachers.
17. Indirect teachers were found to issue three statements of motivation out of every five statements of motivation and controlling behaviour (TRR).

18. Direct teachers talked in classroom in significantly greater amount than moderately direct teachers and moderately direct teachers in significantly greater amount than indirect teachers, the percentages of talk (PTT) by the three groups being roughly 70, 60 and 50 respectively.
19. Significant difference was found to exist in the amount of pupil participation (PPT) in the classes of the three groups of teachers. Indirect teachers gave a little less than $1\frac{1}{2}$ times more opportunity for pupil talk than moderately direct teachers and a little less than 2 times more than direct teachers.
20. Questioning behaviour of indirect teachers in the composite of questioning and lecturing (TQR) behaviour was two times more than the same in the case of moderately direct teachers and ten times more than the same in the case of direct teachers.
21. Teachers' narrow questioning ratio (TNQR) was found to be on the same pattern as (TQR). However, teachers' broad questioning ratio (TBQR) was 16 times more for indirect teachers as compared with direct teachers.
22. In the total statements, which include statements of approval of pupil response and encouragement and praise plus the statements of direction, rejection and justification, the former category of statements was found significantly higher in the case of indirect and moderately direct teachers than in direct teachers. This, result was true when the count of these behaviours was made in over-all interaction as well as after the termination of pupil

talk (TRR-89). However, indirect and moderately direct teachers were found alike in respect of ratios of these behaviours.

23. The proportion of teacher's questioning behaviour in the aggregate of questioning and lecturing behaviour after the termination of pupil talk (TOR-89) was found significantly higher in indirect teacher's ^{classes} than in the classes of other teachers. It was also found that indirect teachers tend to put questions more often than lecture at the termination of pupil talk whereas the other two groups tend to give lecture more often than to put questions.
24. The amount of initiated pupil talk in the total pupil talk (PIR) occurred significantly more in the classes of direct teachers than in those of moderately direct teachers and significantly more in classes of moderately direct teachers than in those of indirect teachers.
25. Direct teachers laid significantly more emphasis on content (CCR) than moderately direct teachers and moderately direct teachers more than indirect teachers. The comparative ratios are 4:3:2.
26. Indirect teachers were found roughly 2 times more flexible in the classroom behaviour than moderately direct teachers and 3 times more than direct teachers.
27. In the classrooms of all the three groups of teachers, sustained initiation (cell 9-9) and sustained response (cell 8-8) of the students' (PSSR) was found to occur nearly in the same amount.

(C-I) Values and Teacher Behaviour

The following findings emerged in regard to the relationship of personal values of teachers with their classroom behaviour as a whole and with specific dimensions of their behaviour:

1. No significant difference was found to exist among indirect, moderately direct and direct teachers in regard to the mean scores of any value (except religious value) which implies absence of relationship between teacher behaviour and their values except the religious value.
2. A significant difference was observed between indirect and direct groups of teachers on the religious value. The indirect group appeared to hold the religious value in a higher degree than the direct group.

Thus, the hypothesis (No.8) which states that there exists no significant relationship between overall index of indirectness-directness and personal values of teachers as found through difference in mean scores of values of indirect, moderately direct and direct teachers, is sustained except in case of one value, i.e., religious. Regarding^{the}/relationship of values with specific dimensions of behaviour the following conclusions were drawn.

3. Theoretical value was found related to teacher steady state ratio (TSSR) in positive direction and teachers' narrow questioning ratio (TNQR) in negative direction which indicates that teachers high on theoretical value tend to give lengthy lecture and feel disinclined to put questions.
4. Teachers high on economic value tend to use praise and encouragement (cat. 2), adopt more supportive behaviour in the composite of supportive and restrictive behaviour (TRR) and demand short answers from pupils than those who are low on economic value.
5. Aesthetic value was found to correlate negatively with TRR, and TRR-89, which leads to the conclusion that teachers high on aesthetic value, exhibit a greater tendency to control students than to motivate in total interaction (TRR) as well as after the termination of pupil talk (TRR-89), as compared with other teachers.
6. Pupil response as well as initiation talk was also found of a more sustained nature in the classes of the teachers high in aesthetic value.
7. Social value was not found to have any relationship with any dimension of teacher behaviour.
8. Political value was also found neither related to any category nor to any ratio of teacher behaviour.
9. Religious value was found to have positive and significant correlations with cat. 3, cat. 4a, I_2/D_2 ratio TQR, TNQR, TQR-89 and TNQR-89. It was also noted that it has a negative correlation with PIR.

The pattern of correlations goes to show that high scores on religious value are related to most of the characteristics of indirect behaviour.

In the light of these findings, hypothesis (No.9) which states that there exists no significant relationship between specific dimensions of teacher behaviour and personal values of teachers, is only partially true.

C-II : Needs and Teacher Behaviour

1. Differences among indirect, moderately direct and direct groups of teachers on all the needs except need autonomy were found statistically non-significant.

On need autonomy indirect group of teachers differ significantly with moderately direct group of teachers.

The hypothesis (No.10), which states that there exists no significant relationship between over all index of indirectness-directness and needs of teachers as found through difference in mean scores of needs of indirect, moderately direct and direct teachers, is sustained except in the case of need autonomy.

2. In regard to specific dimensions of behaviour, it was noted that in the classrooms of teachers with high n-achievement, pupil participation in classroom discussion was greater, sustained pupil talk occurred more often and teacher's own talk was less in comparison with teachers who were low on need achievement.

3. Teachers possessing high need deference were found to behave like direct teachers. They gave more lecture, dominated the class with their talk, laid emphasis on content and were found less flexible in their behaviour. They also provided lesser opportunity for work-oriented silence as compared with teachers with low need deference.
4. Teachers high on need order were found to adopt direct behaviour more often than they adopted indirect behaviour in comparison with teachers who were low on this need.
5. It was found that teachers high on need exhibition had a disposition to praise pupil, extend their ideas, put divergent questions and use responsive behaviour rather than controlling behaviour more than teachers low on n-exhibition.
6. Teachers high on need autonomy were found to criticise the pupils for their poor answers as a result of which pupils produced unconventional ideas. In comparison with other teachers such teachers were found more direct in their statements. Their pupils were also found more flexible than the pupils of other teachers.
7. Total as well as responsive pupil-talk was found less in the classrooms of teachers having high need affiliation. The proportion of pupil initiation in total pupil talk (PIR) was, however, greater in their classes than in those of the teachers with low need affiliation.
8. The main features of the behaviour of teachers, high on need intraception include more of lecture which was

usually of sustained nature, less of questioning, and less of rejection with criticism of pupils responses. Further, ratio of questioning in the total of their questioning and lecturing behaviour was also found comparatively less as compared to other teachers who were low on need intraception.

9. Teachers high on need succourance were found to issue directions and commands on fewer occasions than other teachers. It was found that in their classes sustained pupil talk occurred more often than in the classes of teachers having low n-succourance.
10. Commands, criticism and narrow questioning were found to occur more in the classes of teachers having high need abasement than in those of teachers who are low on this need.
11. Teachers high on n-nurturance were found to behave more like direct teachers than indirect teachers which is evident from negative relationship of this need with cat. 1, cat. 9, I_1/D_1 ratio and PIR and positive with cat. 7_c.
12. It was found that n-change influences teacher's behaviour towards directness which is clear from its negative correlation with cat. 3, cat. 4(b), cat. 8, PPT, TBQR and PSR.
13. Teachers high on need endurance were found to behave like indirect teachers, which is shown by the lone positive correlation of this need with I_2/D_2 ratio.
14. Need heterosexuality does not appear to have any relationship with teacher behaviour.

15. Aggressive teachers were found to recognize positive and negative emotional reactions of students less frequently than other teachers. Again, in their classes, students created more fuss and talked in chorus than in the classes of non-aggressive teachers.

In the light of these findings, the hypothesis (No.11), which states that there exists no significant relationship between specific dimensions of teacher behaviour and needs of teachers, is rejected except in case of need heterosexuality.

C.-III : Temperament and Teacher Behaviour.

The following findings were obtained in regard to the relationship of temperament with teacher behaviour.

1. Indirect, moderately direct and direct groups of teachers were not found differentiable on any of the seven temperamental traits.

Thus the hypothesis (No. 12), which states that there exists no significant relationship between over all index of indirectness-directness and temperament of teachers as found through difference in mean scores of temperament of indirect, moderately direct and direct teachers, is sustained.

However, some correlations with specific traits and specific dimensions of behaviour were noted. They are given below:

2. Teachers who scored high on temperamental trait 'active' exhibited a tendency towards indirectness as became clear from a positive correlation of this trait with cat. 2, cat. 3, cat. 4a, TRR, TMR-89, TNQR and a negative correlation with cat. 5a, CCR, TSSR and SSR.
3. Teachers scoring high on vigorous trait of temperament were found to disfavour criticism of pupils for their failure to supply correct responses more than other teachers.
4. Teachers scoring high on impulsive temperament were found to react more to the students' talk in a non-aggressive manner and exhibited more positive mode of response to students' talk than teachers who scored low on this trait.
5. Teachers possessing dominant temperament were found to use rejection with criticism in a lesser degree than those who are low on this trait.
6. As compared to other teachers, stable teachers were found to provide corrective feedback more often and also gave more opportunity of initiation to the students. But they took cognizance of pupils' emotional states less often and gravitated towards direct influence.
7. Sociable teachers exhibited a tendency to praise and encourage students and to integrate and extend pupil ideas with their own ideas more than other teachers. Moreover, they preferred not to criticise them even for their unacceptable responses, thus

exhibiting indirect influence. Indirect behaviour of sociable teachers, was brought out by the positive correlation of the sociable trait with TRR and TQR-89.

8. Reflective teachers were found to differ from non-reflective teachers in that the proportion of motivation in total motivational and controlling behaviour of reflective teachers was higher than the same in non-reflective teachers.

In the light of the above findings, the hypothesis (No.13), which states that there exists no significant relationship between specific dimensions of teacher behaviour and temperament of teachers, is only partially true.

C-IV: Academic Career and Teacher Behaviour.

When the relationship of academic career with the over-all teacher behaviour and with its specific dimensions was studied, the following findings emerged:

1. No significant difference was obtained among the indirect, moderately direct and direct groups of teachers on the basis of their academic career which goes to show that there exists no relationship between teacher behaviour and academic career.

The hypothesis (No.14), which states that there exists no significant relationship between over-all index of indirectness-directness and academic career of teachers as found through

difference in mean scores of academic career of indirect, moderately direct and direct teachers, is therefore sustained.

2. Among the specific dimensions of behaviour, only rejectant behaviour was found related to academic career. Teachers having high academic career use rejectant behaviour accompanied by necessary feedback more than teachers with not so high academic career.
3. No significant differences were found among indirect, moderately direct and direct teachers in the use of other behaviour categories as well as behaviour ratios on the basis of academic career.

Thus, the hypothesis (No.15), which states that there exists no significant relationship between specific dimensions of teacher behaviour and academic career of teachers is found tenable except in case of rejectant behaviour.

C-V : Job Adjustment and Teacher Behaviour.

The following findings were obtained in regard to the relationship of job adjustment with teacher behaviour:

1. On job adjustment, moderately direct teachers were found to differ significantly with direct teachers. The difference between indirect and direct teachers also reaches very close to significance level. The means of job adjustment score of 104, 105 and 96 for indirect, moderately direct and direct groups of teachers revealed that indirect and

moderately direct groups of teachers draw more or less the same degree of satisfaction from their job but direct teachers do not feel as much satisfied as the other two groups.

Thus the hypothesis (No.16), which states that there exists no significant relationship between over all index of indirectness-directness and job adjustment of teachers as found through difference in mean scores of job adjustment of indirect, moderately direct and direct teachers, is rejected.

2. Well adjusted teachers were found to exert overall indirect influence which is evident from the positive correlation of adjustment scores with cat.1, cat.4a and negative with cat.5b and SSR.

In the light of these findings hypotheses (No.17), which states that there exists no significant relationship between specific dimensions of teacher behaviour and job adjustment of teachers, is rejected.

- (1) Further areas of research.
- (2) Limitations of the present study.

(1) Further Areas of Research

Teacher's classroom behaviour is a very complex phenomenon. It is influenced not only by his own cognitive and non-cognitive characteristics but also by a host of other factors including pupil behaviour. As the present investigation was in progress,

the investigator felt that in order to develop a comprehensive theory of teacher behaviour, it is not sufficient to know what he does in the classroom and how he does what he does but it is also necessary to know what effect his acts have on the pupils; what kind of behaviour makes a teacher competent; what personality characteristics (other than those investigated in this study) and intellectual abilities mould his behaviour and by what means a change in his behaviour towards greater effectiveness can be brought about. In short, the area of teacher's classroom behaviour appears to possess vast potentialities of research for future researchers. Some of the significant problems that need to be investigated in order to add more knowledge to what is already known about teacher behaviour are suggested below:

- (1) A study of the effect of feed back on modification of teacher's classroom behaviour.
- (2) An investigation into the effects of teacher's classroom behaviour on pupils' achievement.
- (3) A study of teacher's classroom behaviour in relation to variables of students' liking and perceived behaviour by peers, principals and self.
- (4) A study of classroom behaviour of teachers and its relationship with their creativity and self concept.
- (5) An investigation into behaviour flow patterns of extrovert and introvert teachers in classroom at secondary level.

- (6) A study of the effect of anxiety on teacher behaviour.
- (7) Classroom behaviour of teachers and its relationship with their attitudes.
- (8) Classroom behaviour of teachers and its relationship with their intelligence.
- (9) Classroom behaviour of teachers and its relationship with their work values.
- (10) Classroom behaviour of teachers and its relationship with their pupil control ideology.
- (11) The effect of different techniques of feed back upon the attainment of teaching skills related to stimulus variation among teachers.
- (12) An investigation into the scope of application of interaction analysis to the intervice training of teachers.

Limitations of the Present Study

- (1) In the present study though Flander's interaction analysis category system has been improved by splitting categories 4, 5 and 7, yet the split of category 6 into (1) cat. 6a (routine commands), and (2) cat. 6b (commands for the justification of authority) and category 9 into (1) cat. 9a (undesirable talk and off target remarks) and (2) cat. 9b (genuine initiation), would have further improved the quality of observation.

- (2) Though verbal behaviour of teachers observed by modified form of FIAC fully represents total behaviour of teachers because non-verbal behaviour is found in accord with verbal behaviour, yet if observation of non-verbal behaviour by any genuine means had been integrated with the verbal behaviour, the value of the study would have enhanced.
- (3) To have objective observation of teacher behaviour, interobserver reliability was computed time and again and tape recorder was also used to facilitate observation. But, close circuit television, which could not be arranged, might have improved the quality of observation.
- (4) Data other than teacher behaviour collected for this study was based on the responses of teachers in peculiar atmosphere of their respective schools. It might vary with time and cultural setting thus necessitating replication of the study.
- (5) Data of the study was collected from only five districts out of the 57 districts of Uttar Pradesh. The inclusion of some more districts would have added more weight to the generalisability of the findings.

Notwithstanding these limitations, the value of the present investigation may perhaps be recognized in that it embodies the investigator's sincere attempt to explore an area of much interest to the educationists and psychologists.

APPENDICES

APPENDIX-1

THURSTONE TEMPERAMENT SCHEDULE

by

L. L. Thurstone, Ph.D., Professor of Psychology, The University of Chicago

This schedule was developed to show types of temperament. It is a list of questions about likes and dislikes, preferences and habits, in everyday life.

There are no right or wrong answers to these questions; one answer can be just as good as some other answers. Be sure to follow the instructions below carefully. Only by doing so will you obtain results which are accurate and of value to you.

Two different types of answer sheets may be used with this booklet.

	Yes 2 No	Yes 2 No
If your answer sheet looks like example A, follow the instructions under A, below. If your answer sheet looks like example B, follow the instructions under B, below.	<div><div><input type="radio"/></div><div><input type="radio"/></div><div><input type="radio"/></div></div>	<div><div><input type="checkbox"/></div><div><input type="checkbox"/></div><div><input type="checkbox"/></div></div>
	Example A	Example B

INSTRUCTIONS FOR MARKING ANSWERS

▲ For each question, make a cross in the square for the answer that fits you best. If your answer is Yes, mark the box under the Yes : Yes 2 No
X O O

If your answer is No mark the box under the No : O O X

If you cannot decide, mark the box under the question mark : O X O

If you want to change an answer, draw a circle around your first answer and mark the box for the answer you prefer. Do NOT erase any answer you have marked.

Be sure that you put the answers to each page in the proper column. Whenever you turn a page, make certain that the answer sheet lines up with the questions. Be sure to answer all the questions.

NOW GO AHEAD WITH THE QUESTIONS ON THE NEXT PAGE

1. Are you more restless and fidgety than most people?
 2. Do you ordinarily work quickly and energetically?
 3. In conversation, do you often gesture with hands and head?
 4. Do you drive a car rather fast?
 5. Do you enjoy spending leisure time on physical work?
 6. Do you have a low-pitched voice?
 7. Do you enjoy having a good physical work-out?
-
8. Do you enjoy working with tools?
 9. Do you let yourself go and have a gay time at a party?
 10. Do you often make people laugh?
 11. Do you like to be where there is something doing all the time?
 12. Do you usually notice the furniture or rugs in a strange house?
 13. Do you find it difficult to speak before an audience?
 14. Do you often take the initiative in planning for a party?
-
15. Do you often tell stories to entertain others?
 16. Do you like to be the chairman of a meeting?
 17. Is your mood easily influenced by people around you?
 18. Can you relax in a noisy room?
 19. Do you often see so many alternatives that a decision is difficult?
 20. Do you remain calm when a friend is in pain?
 21. Do you often praise and encourage your friends?
-
22. Do you like work requiring many conferences with new people?
 23. Do you spend many evenings with friends?
 24. Do you like work that requires much talking?
 25. Do you often contribute new ideas in your work?
 26. Are you considered to be absent-minded?
 27. Do you like work that must be very systematic and orderly?
 28. Are you often bored with people?

29. Do you rather deliberate in telephone conversations?
30. Are you often in a hurry?
31. As a boy (or girl), did you prefer work in which you could move around?
32. Do people consider you to be rather quiet?
33. Do you like work that requires physical exertion?
34. Do you swear often?
35. Do you participate in physical sports?
-
36. Are you handy with tools?
37. Do you like work that has a lot of excitement?
38. Do you like work requiring patience and carefulness?
39. Are you frequently considered to be "happy-go-lucky"?
40. Do you make up your mind easily?
41. Do you enjoy being the host at a party?
42. Do you enjoy presenting a new project before a group?
-
43. Do you enjoy promoting a new project?
44. Do you like to introduce the speaker at a meeting?
45. Can you study with the radio on?
46. Do you often alternate between happiness and sadness?
47. Do you tend to become hungry quickly with a sudden pang?
48. Are you usually cool and composed in a dangerous situation?
49. Are there some foods that you strongly dislike?
-
50. Do you get acquainted with your neighbors?
51. Are you sometimes considered to be cold and unsympathetic?
52. Do you like work that puts you in contact with a lot of people?
53. Do you like to work with theoretical ideas?
54. As a child, were you inclined to take life seriously?
55. Do you like working alone?
56. When you have a problem, do you prefer to think it out by yourself?

57. Do you talk more slowly than most people ?
58. Do you usually work fast ?
59. Do you usually speak louder than most people ?
60. Do you eat rapidly even when there is plenty of time ?
61. Have you ever done any hunting ?
62. Do you like fishing ?
63. Have you participated in wrestling ?
-
64. Have you played on a baseball team ?
65. Do you like work involving competition ? - - - - -
66. Do you like work in which you must change often from one task to another ? -
67. In watching a game, do you yell along with the others ? - - - - -
68. Do you usually have a "ready answer" ? - - - - -
69. Do you enjoy introducing people ? - - - - -
70. Do people have to go more than halfway to get to know you ? - - - - -
-
71. Do you frequently keep in the background on social occasions ? - - - - -
72. Do you assume responsibilities without much hesitation ? - - - - -
73. Can you work under distraction ? - - - - -
74. Do you often fret about the little daily chores ? - - - - -
75. Are you annoyed to leave a task unfinished ? - - - - -
76. When you are emotionally upset, do you tend to lose your appetite ? - - - -
77. Do you usually agree with the group about how things should be done ? - - -
-
78. Do you easily win the friendship of strangers ? - - - - -
79. Do you feel sentimental about anniversaries and birthdays ? - - - - -
80. Do people readily tell you about their personal troubles ? - - - - -
81. Do you like work that requires scientific precision ?
82. Do you like work that requires much reading ? - - - - -
83. Do you often like to change devices and procedures ? - - - - -
84. Do you often prefer to spend an evening alone ? - - - - -

85. Do you prefer to linger over a meal and enjoy it ?
86. Do you like work that is slow and deliberate ?
87. Do you often let a problem work itself out by waiting ?
88. Do you like to drive a car rather fast
when there is no speed limit ?
89. Do you like work in which there is vigorous activity ?
90. Do you enjoy a race or game better when you bat on it ?
91. Have you ever been captain of a team ?
-

92. Are you resourceful in fixing
mechanical things about the house ?
93. Do you frequently feel "on top the world" ?
94. Do you remember the names of people you meet ?
95. Do you like to take a chance just for the excitement ?
96. In the morning, do you usually bound out of
bed energetically ?
97. Were you bashful when you were a child ?
98. Are you likely to take charge in case of an accident ?
-

99. Would you enjoy being the toastmaster at a banquet ? - - - -
100. Do you like work in which you must influence others ? - - - -
101. Does it irritate you to be interrupted when
you are concentrating ? - - - - -
102. Can you return to work easily ? - - - - -
103. Does it bother you to have to finish a
job by a deadline ? - - - - -
104. Do you often feel impatient ? - - - - -
105. Do you tend to join many organizations ? - - - - -
-

106. Are you relatively free from self-consciousness ? - - - -
107. Do you like working as a member of a group ? - - - -
108. Can you put strangers at ease ? - - - - -
109. Do you tend to take on more things than
you can finish well ? - - - - -
110. Did you often play alone as a child ? - - - - -
111. Do you like to invent new procedures and devices ? - - - -
112. Are you more interested in planning a project
than in carrying it out ? - - - - -

(Go On To The Next Page)

113. Is your handwriting rather fast ? - - - - -
114. Do you often work slowly and leisurely ? - - - - -
115. Do you often try to persuade
others to your points of view ? - - - - -
116. Do you generally walk faster than most people ?
117. Have you ever done any racing ? - - - - -
118. Have you done horseback riding as a sport ? - - - - -
119. Have you participated in boxing ? - - - - -
-
120. Have you played on a football team ? - - - - -
121. Do you spend much of your
leisure time out-of-doors ? - - - - -
122. Do you usually make up your mind quickly ? - - - - -
123. As a youngster, were you occasionally the
leader in a reckless stunt ? - - - - -
124. Do you frequently forget things ? - - - - -
125. Do you find it easy to give instructions to servants ? - - -
126. Do you often wait and others
take the initiative ? - - - - -
-
127. Do you avoid public speaking ? - - - - -
128. At a party, do you often find yourself
talking to a group of people ? - - - - -
129. Does it take a long time in the
morning before you are fully awake ? - - - - -
130. Are you generally regarded as optimistic ? - - - - -
131. Are you often annoyed to have to
leave your work ? - - - - -
132. Are your hands and feet often cold ? - - - - -
133. Is it easy for you to express your self
in conversation ? - - - - -
-
134. Does it usually take a long time to
get acquainted with you ? - - - - -
135. Do you have a large and sprawling handwriting ? - - -
136. Are you at ease in a large group of people ? - - - - -
137. Do you often get behind in your work ? - - - - -
138. Do you like work where you have
peace and quiet ? - - - - -
139. Do you like work that requires accuracy
in fine detail ? - - - - -
140. Do you often find books more
interesting than people ? - - - - -

अध्ययन का मापन (MEASUREMENT OF STUDY VALUES)

SCORING TABLE						
Values Page	A	B	C	X	Y	Z
1						
2						
3						
4						
5						
6						
7						
Total						

नाम
ग्रामीण / शहरी
शैक्षिक योग्यता
पिता का व्यवसाय
स्थान

प्राप्त
जाति
प्राप्त का व्यवसाय

भाग १

[१]

निर्देश

नीचे की पंक्तियाँ स सृष्ट प्रश्न दिये गए हैं। प्रत्येक प्रश्न के नीचे दो सम्भावित उत्तर दिये गए हैं। बाहिनी ओर के रिक्त स्थानों में इन का उत्तर 'अ' या 'ब' द्वारा अपनी अपनी प्राथमिकता प्रदर्शित करनी है।

१ — यदि प्राय उत्तर (अ) से सहमत है और उत्तर (ब) से असहमत है तो प्रथम कोष्ठ (अ) में संख्या १ और दूसरे कोष्ठ (ब) में ० (शून्य) लिख दीजिये।

२ — इसी प्रकार यदि प्राय उत्तर (अ) से सहमत है और उत्तर (ब) से असहमत है तो प्रथम कोष्ठ (अ) में ० (शून्य) और द्वितीय कोष्ठ (ब) में संख्या १ लिख दीजिये।

३ — यदि प्राय कथन (अ) का कथन (ब) में कुछ अधिक प्राथमिकता देना चाहते हैं तो पहले कोष्ठ (अ) में संख्या २ और दूसरे कोष्ठ (ब) में संख्या १ और यदि कथन (ब) से कथन (अ) की अधिक प्राथमिकता देना चाहते हैं तो पहले कोष्ठ (अ) में संख्या १ और दूसरे कोष्ठ (ब) में संख्या २ लिख दीजिये।

समय का कोई प्रतिबंध नहीं है किन्तु निम्न एक ही प्रश्न पर मत उलझिये। कृपया सभी प्रश्नों के उत्तर दीजिये।

१. मानवता के उद्देश्यों की पूर्ति के लिये किस विषय का अध्ययन करना आवश्यक है ?

- (अ) विज्ञान
- (ब) धर्म

२. सामाजिक जीवन का उद्देश्य क्या होना चाहिये ?

- (अ) तत्त्व की खोज करना
- (ब) व्यावहारिक उद्देश्यों की पूर्ति करना

३. समाजोत्थान के लिये आप किसके कार्यों को महत्वपूर्ण मानते हैं ?

- (अ) राजकीय विचारान्तर
- (ब) समाज सेवा

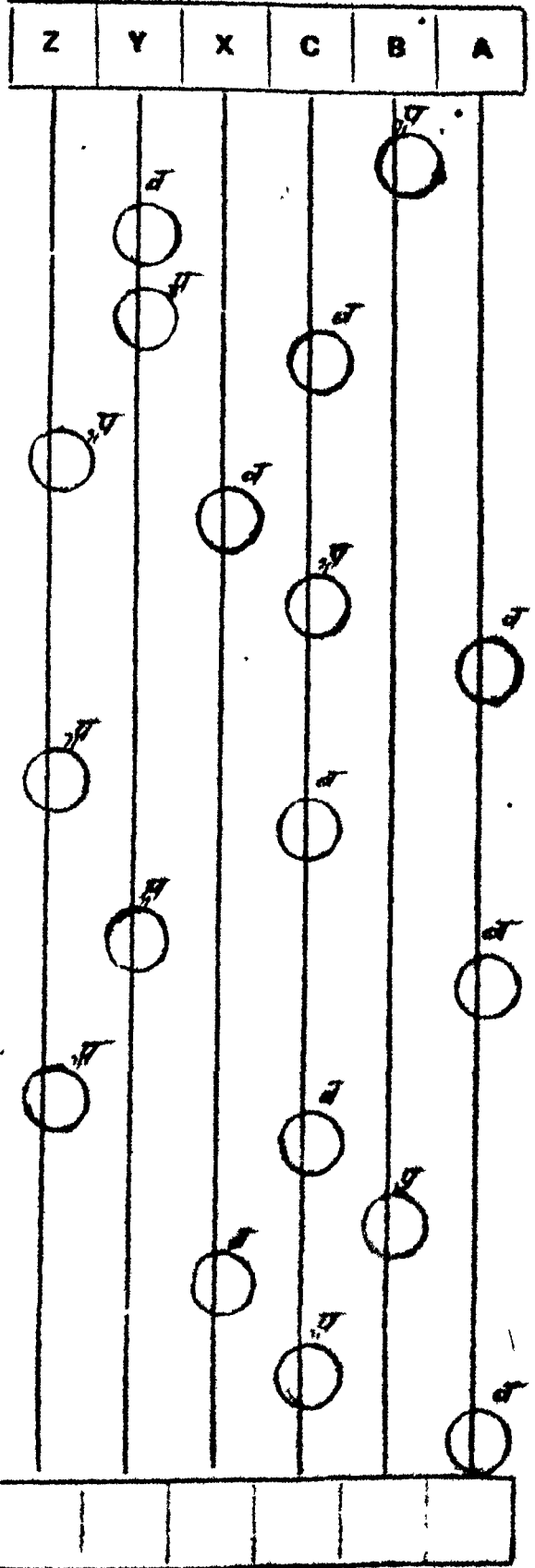
४. मान नीचे आपके पास अब साधन उपलब्ध है और सामर्थ्य भी है तो आप क्या करना चाहिये ?

- (अ) राजनीतिज्ञ
- (ब) व्यापारी

५. धार्मिक ग्रन्थों जैसे रामायण, गीता, कुरान अथवा बाइबिल के बारे में आप का क्या विचार है ?

- (अ) वे मानवता के लिये सहायक हैं
- (ब) वे मानवता के लिये अशुभ हैं

A	B	C	X	Y	Z
○					○
○					
	○				
					○
				○	
				○	
○					○



१. आधुनिक नेताओं के कार्यों में आप किस कार्य की महत्त्व देने ?
 - (अ) आर्थिक सध्यों की पूर्ति करना
 - (ब) अपने संगठन को मजबूत करने के लिये दूसरों को प्रभावित करना
२. किसी मध्य समारोह में आप किस बात से प्रभावित होंगे ?
 - (अ) उस संस्था की शक्ति, सिद्धांत एवं महत्त्व से
 - (ब) उसकी शासदार सजावट व कमक इमक से
३. आपके विचार से अच्छे व्यक्तियों में कौन से आरिक्त गुण अधिक वांछनीय एवं महत्त्वपूर्ण हैं ?
 - (अ) उच्च आदर्श व भक्ति
 - (ब) निस्वार्थता एवं सहानुभूति
४. यदि आप में पर्याप्त योग्यता हो और आपको कलेज का अध्यापक बना दिया जाये तो आप किस विषय को पढ़ाना पसन्द करेंगे ?
 - (अ) कविता
 - (ब) शोध विषय
५. दैनिक समाचार पत्र पढ़ते समय आपको यदि निम्नलिखित सूचनाएँ एक साथ दिखलाई पड़ती हैं तो सबसे पहले किसको पढ़ना पसन्द करेंगे ?
 - (अ) धार्मिक नेतागणों के शान्ति के लिये प्रयास
 - (ब) किन्हीं कलाकार की वैवाहिक सूचना
६. यदि समाचार पत्र पढ़ते समय आप दो सूचनाएँ एक साथ देखते हैं तो आप सबसे पहले क्या पढ़ना पसन्द करेंगे ?
 - (अ) सर्वोच्च न्यायालय के निर्णय सम्बन्धी सूचना
 - (ब) नवीन वैज्ञानिक शोध सम्बन्धी सूचना
७. यदि कभी आप अपने धार्मिक स्थानों में प्रवेश करते हैं तो वहाँ की किस वस्तु से अधिक प्रभावित होते हैं ?
 - (अ) वहाँ व्याप्त पूजा एवं ध्यान की आध्यात्मिक भावना से
 - (ब) उस भवन की सुन्दर निर्माण कला में
८. यदि आपके पास पर्याप्त समय है तो उसका उपयोग किस कार्य में करेंगे ?
 - (अ) अपनी आर्थिक स्थिति के सुधारने में
 - (ब) सामाजिक या सार्वजनिक कार्य करने में
९. यदि किसी नवीन भवन को देखने का सुकसर आपको मिलता है तो बताइये आप क्या देखना पसन्द करेंगे ?
 - (अ) भवन की नवीन निर्माण कला
 - (ब) भवन के निर्माण का वैज्ञानिक आधार

B	X	Y	A	Z	C
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२४. भौतिक पतन को कैसे रोका जा सकता है ?

- (अ) नागरिकों को उनके कर्तव्यों का ज्ञान करा कर
- (ब) मानव व्यवहार के मूलभूत नियमों का अधिकाधिक ज्ञान करा कर

२५. मान लीजिये आपके पास ऐसी क्षमता है कि आप लोगों के रहन-सहन का स्तर ऊँचा उठा सकते हैं तथा जनता के विचारों को बदल सकते हैं तो आप क्या करना चाहेंगे ?

- (अ) लोगों के रहन-सहन के स्तर में परिवर्तन
- (ब) जनता के विचारों में परिवर्तन

२६. आप किस विषय पर ध्यानकाव सुनना पसन्द करेंगे ?

- (अ) देश के किसी भाग की सामाजिक सेवा की प्रगति
- (ब) पत्रकला एवं शिल्प कला की प्रगति

२७. सभी तथ्य इस बात के साक्षी हैं कि बिजली की वर्तमान रचना का कारण-

- (अ) ईश्वर की शक्ति है
- (ब) प्राकृतिक नियम एवं सिद्धांत हैं

२८. आप किस विषय पर रेडियो द्वारा समाचार सुनना पसन्द करेंगे ?

- (अ) बाजार भाव का विवरण
- (ब) चलचित्रों का विज्ञापन

२९. आप अपने बच्चों को किस विषय की शिक्षा देना चाहेंगे ?

- (अ) धर्म की शिक्षा
- (ब) व्यायाम की शिक्षा

३०. आप किस विचारधारा में अधिक प्रभावित होते हैं ?

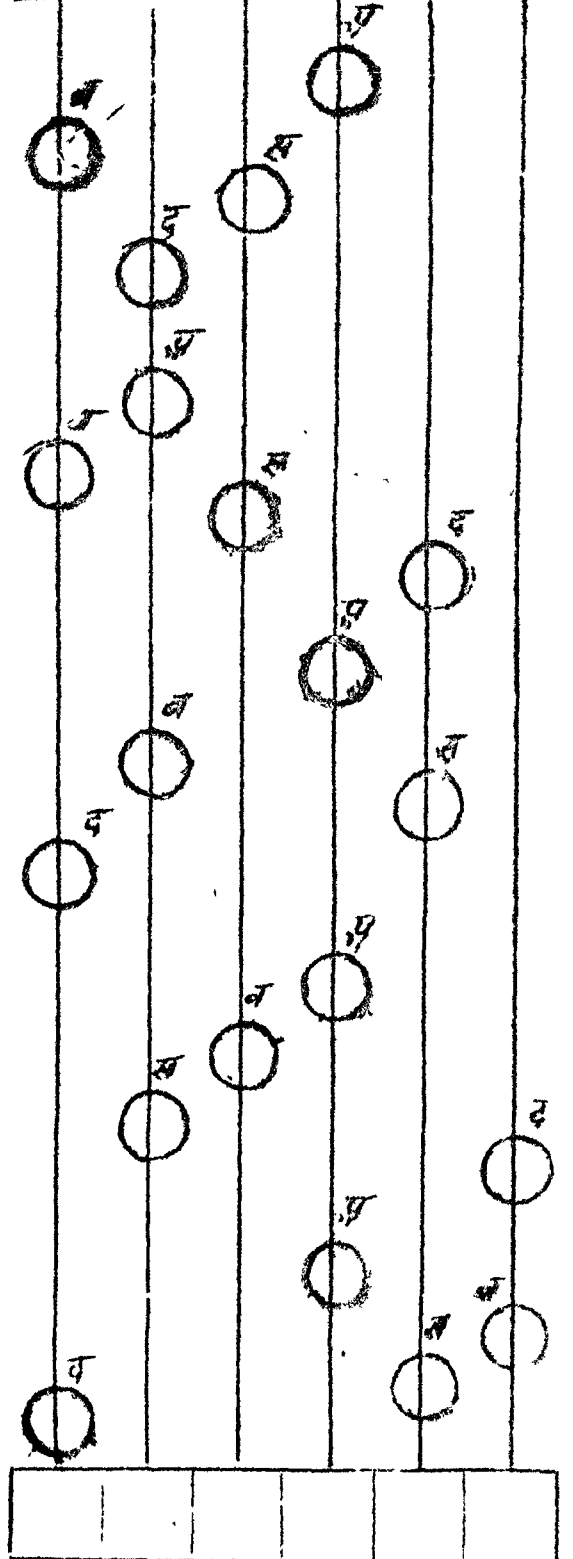
- (अ) संगीत जीवन मानवीय गतिशीलता का विकसित करता है
- (ब) बच्चों को शिक्षा देने से समाज में विषमता दूर हो सकती है

X	A	Z	B	C	Y
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<input checked="" type="radio"/>					<input checked="" type="radio"/>
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				<input checked="" type="radio"/>	
<input checked="" type="radio"/>					<input checked="" type="radio"/>
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- Handwritten musical notation on a five-line staff, featuring various notes and rests.

(क) इससे विश्व सम्प्रदाय की भावना बढ़ती है

- (द) उसका कथावस्तु प्रभावशाली है



* आप की पसन्द : एक अनुसूची *

निर्देश

इस अनुसूची में दो-दो वाक्यों के बहुत से जोड़े क्रम से दिये हुए हैं। प्रत्येक जोड़े के दोनों वाक्यों में ऐसी बातें हैं जिन्हें या तो आप करना पसन्द करते हैं या जिन्हें करने की आपका भी चाहता है। कुछ वाक्यों में ऐसे भाव या अनुभूतियाँ हैं जिन्हें आप महसूस या अनुभव करते हैं। प्रत्येक जोड़े के दोनों वाक्यों को ध्यान से पढ़कर आपको यह तय करना है कि इन वाक्यों में कही गई दोनों बातों में से कौन-सी आपके पसन्द की है या आपके धारे में ठीक-ठीक लागू होती है। अगर दोनों ही बातें आपको पसन्द हैं तो यह देखिये कि दोनों में से कौन अधिक पसन्द है। उसे आप चुन लीजिये और जो कम पसन्द हो या नापसन्द हो उसे छोड़ दीजिये। एक उदाहरण लीजिये।

क. मैं घर के बाहर कागड़े के कपड़ों में निकलना पसन्द करता हूँ।

ख. मैं अपने उद्देश्य की पूर्ति के लिए सही तरीकों का इस्तेमाल करता हूँ।

ऊपर के दोनों वाक्यों में दो बातें हैं : १. 'घर के बाहर कागड़े के कपड़ों में निकलना', २. 'अपने उद्देश्य की पूर्ति के लिए सही तरीकों का इस्तेमाल करना'।

अब देखिये कि इन दोनों में से कौन-सी बात आपके पसन्द की है या आपकी पसन्द के अधिक करीब है—उसे आप चुन लीजिये और दूसरी को छोड़ दीजिये।

ठीक इसी तरह आप अनुपूर्ति वाले वाक्यों को लें। इनमें भी आपकी अनुभूति के अधिक नजदीक जो वाक्य हो उसे चुन लें।

ध्यान रखें कि आप किसी वाक्य को यह सोचकर न चुनें कि आपको 'क्या पसन्द करना चाहिए' और 'कैसा महसूस करना चाहिए' बल्कि यह सोचकर चुनें कि आप सचमुच क्या पसन्द करते हैं, कैसा महसूस करते हैं। यानी दोनों बातों में से कौन-सी बात आपके धारे में ठीक-ठीक लागू होती है।

यह कोई परीक्षा नहीं है। इसलिए आपके जवाब के सही या गलत होने की कोई बात नहीं है। केवल आपको अपनी पसन्द की बात वाले वाक्य को चुन लेना है।

वाक्यों के हर जोड़े को ध्यान से पढ़िये, विचार कीजिये और अपनी पसन्द की बात वाले वाक्यों को चुन लीजिये।

अगर ऐसा हो कि किसी जोड़े की दोनों ही बातें आपको नापसन्द हैं तो यह देखिए कि कौन-सी बात आपको कम नापसन्द है उसी को चुन लीजिए।

हाँ, हर जोड़े में से एक वाक्य अवश्य चुनिये। कोई जोड़ा छूटने न पाये।

इस पुस्तिका पर कुछ न लिखिये। आपको एक उत्तर-पत्र (answer-sheet) अलग से दिया गया है जिसमें वाक्यों के जोड़ों को क्रम-संख्या दी गयी है और प्रत्येक क्रम-संख्या के सामने 'क' और 'ख' दिये हुए हैं। इस अनुसूची के वाक्यों के जोड़ों को क्रम-संख्या और उत्तर-पत्र के जोड़ों को क्रम-संख्या को ठीक से मिलाइये, और तब 'क' तथा 'ख' में से जिसे आपने चुना है, उत्तर-पत्र में उना को 'क' या 'ख' को Bracket से घेर दीजिये। उदाहरण नीचे दिया गया है।

८ [क] ख

९ क [ख]

यहाँ नम्बर ८ में 'क' और ९ में 'ख' को चुना गया है। इसी तरह आपको भी अपने उत्तर-पत्र में निम्नानुसार करना है।

जब तक कहा न जाय, पन्ना मत उलटिये

- १ क. मैं जिनो के कुछ दर्ज मे तारीफ़ होना पसन्द करता हूँ।
- ख. मैं जो भी काम हाथ में लेता हूँ उसे सफलतापूर्वक पूरा करना पसन्द करता हूँ।
- ग. मैं दूसरों की कीर्तियाँ पढ़ना मुझे अच्छा लगता है।
- घ. मैं चाहता हूँ कि मैं कोई ऐसा काम करूँ जिसका बड़ा फायदा हो।
- ङ. मैं कोई मुश्किल काम शुरू करने के पहले उसकी एक योजना बना लेना पसन्द करता हूँ।
- च. मैं जो भी काम हाथ में लेता हूँ उसे सफलतापूर्वक पूरा करना पसन्द करता हूँ।
- ज. दोस्तों की मण्डली में मनोरंजन पटकुरी और किस्से सुनाना मुझे अच्छा लगता है।
- झ. मैं ऐसी पहेलियाँ और समस्याएँ हल करना पसन्द करता हूँ जो दूसरों के लिए मुश्किल पड़ती हैं।
- ञ. मैं चाहता हूँ कि मुझे जो कुछ करना है उसका फंसता बिना किसी दूसरे की मदद के छुट पड़े।
- ट. मैं चाहता हूँ कि मैं कोई बड़ी कितान लिख सकूँ।
- ड. मैं जिस काम में हाथ लगाता हूँ उसे खूब अच्छी तरह करना पसन्द करता हूँ।
- ण. मैं यह जानना चाहता हूँ कि जिन बातों में मेरी दिलचस्पी है उनके बारे में मज़ान व्यक्तियों के क्या विचार हैं।
- त. मुझे नए-नए लोगों से मिलना-जुलना अच्छा लगता है।
- थ. मैं रीति-रिवाज के अनुकूल रहना पसन्द करता हूँ और ऐसा कुछ नहीं करना चाहता जिसे आदर्शवादी जन परम्परा-विरोध समझते हैं।
- द. कोई काम शुरू करने के पहले मैं उसके हर पहलू को सोच-समझ लेना पसन्द करता हूँ।
- ध. मैं यह जानना चाहता हूँ कि जिन बातों में मेरी दिलचस्पी है उनके बारे में महान व्यक्तियों के क्या विचार हैं।
- ६ र. मैं ऐसी बातें करना पसन्द करता हूँ जिन्हें लोग सुन-बूझ की और दिलचस्पी समझें।
- ख. मैं जिन लोगों की कद्र करता हूँ उन्हें अपना नेता मानना मुझे पसन्द है।
- क. बिना इस बात की परवाह किए हुए कि दूसरे क्या सोचेंगे, मैं अपने ढंग से काम करना पसन्द करता हूँ।
- क. अपने समूह का कार्य-क्रम दूसरे सब्सर्गों द्वारा तय किया जाना मुझे पसन्द है।
- क. मैं जिस काम में हाथ लगाता हूँ उसे खूब अच्छी तरह करना पसन्द करता हूँ।
- क. कोई काम शुरू करने के पहले मैं उसके हर पहलू को सोच-समझ लेना पसन्द करता हूँ।

- १२ क. अपने से अच्छे लोग जब किसी काम को अपने ढंग से करते हैं तो उनकी तारीफ़ करने की भी चाहता हूँ।
- ख. यदि मुझे कहीं बाहर जाना हो तो मैं उसकी पूरी तैयारी अपने से कर लेना पसन्द करता हूँ।
- १३ क. मैं किसी समस्या या पहेली में उस समय तक नहीं रहता पसन्द करता हूँ जब तक कि यह हल न हो जाय।
- घ. मैं अपनी चिट्ठियाँ और दूसरे कागज-पत्र कागधे से घालन-फाड़ल बनाकर रखना पसन्द करता हूँ।
- १४ क. समूह में मैं यह चाहता हूँ कि सब लोग रीढ़ी धीरे ध्यान दें।
- घ. मुझे जिन समय क्या जाना चाहिए वह निर्दिष्ट रहना तथा निश्चय ठीक समय में जाना पसन्द है।
- १५ क. जना इस बात की परवाह किये हुए कि दूसरे क्या सोचेंगे, मैं अपने ढंग से काम करना पसन्द करता हूँ।
- घ. मैं अपना जीवन-क्रम इस तरह व्यवस्थित कर लेना पसन्द करता हूँ जो बिना किसी पास हेर-फेर के आसानी से चलता रहे।
- १६ क. मैं यह चाहता हूँ कि मुझे किसी व्यवसाय, कार्य या विशेष ज्ञान के क्षेत्र में विशेषज्ञ माना जाय।
- घ. मैं ऐसी बातें करना पसन्द करता हूँ जिन्हें लोग सुन-बूझ की ओर दिलचस्पी समझें।
- १७ क. मैं धाँधलो का पालन करना तथा जिन बातों की मुझसे उम्मीद की जाती हो उसे पूरा करना पसन्द करता हूँ।
- घ. दोस्तों की मण्डली में मनोरंजन किस्से और पटकुरी सुनाना मुझे अच्छा लगता है।
- १८ क. मैं अपना जीवन-क्रम इस तरह व्यवस्थित कर लेना पसन्द करता हूँ जो बिना किसी पास हेर-फेर के आसानी से चलता रहे।
- घ. समूह में मैं यह चाहता हूँ कि सब लोग मेरी ही ओर ध्यान दें।
- १९ क. मैं ऐसी बहस या बात-चीत में भाग लेना पसन्द करता हूँ जिसका विषय काम-कुशल (सेहत) हो।
- घ. मैं ऐसे शब्दों का प्रयोग करना पसन्द करता हूँ जिनका अर्थ लोग जबरन नहीं जानते।
- २० क. किसी विषय में मैं जो कुछ महसूस करता हूँ उसे कह देना पसन्द करता हूँ।
- ख. मैं जान-बूझ कर ऐसे प्रश्न पूछना पसन्द करता हूँ जिनका जवाब कोई न दे सके।
- २१ क. मैं यह चाहता हूँ कि मुझे किसी व्यवसाय, कार्य का विशेष ज्ञान के क्षेत्र में विशेषज्ञ माना जाय।
- ख. मुझे जो कुछ करना है उसके करने में मैं आबादी महसूस करना चाहता हूँ।
- २२ क. कोई योजना बनाते समय मैं उन लोगों से सुझाव लेना पसन्द करता हूँ जिनके विचारों का मैं आदर करता हूँ।
- ख. मुझे जो कुछ करना है उसके करने में मैं आबादी महसूस करना चाहता हूँ।

- १ क. मैं अपनी काम करने की जगह या मेज पर सब चीजें ले सजा कर रखना पसन्द करता हूँ ।
- ख. मैं चाहता हूँ कि मुझे जो कुछ करना है उसका फैसला बिना किसी दूसरे की मदद के खुद करूँ ।
- २ क. दूसरों के सामने मैं अपनी बहादुरी और अपने जीवन की आवश्यकतनक बातों को दास्तान सुनाया पसन्द करता हूँ ।
- ख. मैं जिम्मेदारियों और बन्धनों से दूर रहना पसन्द करता हूँ ।
- ३ क. मैं कभी-कभी इतना गुस्से में आ जाता हूँ कि चीजों को उठा-पटक और तोड़-फोड़ देने की जी चाहता हूँ ।
- ख. मैं काम करना पसन्द हूँ जिन्हें रीति-रिवाज के विरुद्ध समझा आता है ।
- ४ क. मैं चाहता हूँ कि मैं कोई ऐसा काम कभी बिसका बहादुर हो ।
- ख. मैं मित्रों के काम आना अच्छा लगता है ।
- ५ क. लोगों का पालन करना तथा जिस बात की मुझे उम्मीद की जाती हो उसे पूरा करना पसन्द करता हूँ ।
- ख. जो से घनिष्ठ सम्बन्ध रखना पसन्द करता हूँ ।
- ६ क. मुश्किल काम शुरू करने के पहले उसकी एक योजना बनाना पसन्द करता हूँ ।
- ख. मैं ऐसा सफर में रहना पसन्द करता हूँ जहाँ आइस में मैत्री-भाव तथा स्नेह रहे ।
- ७ क. कोई काम सिकं यह देखने के लिए करना पसन्द करता हूँ कि उसका दूसरों पर क्या असर होता है ।
- ख. मैं अपनी सभी बातों में मित्रों को शामिल रखना पसन्द करता हूँ ।
- ८ क. मुझ में कुछ करना है उसके करने में मैं आजादी महसूस करना चाहता हूँ ।
- ख. मैं अपने मित्रों की चिट्ठियाँ लिखना मुझे अच्छा लगता है ।
- ९ क. मैं चाहता हूँ कि मैं कोई बड़ी किताब लिख सकूँ ।
- ख. मैं अपने को दूसरों की परिस्थिति में रखकर यह समझना चाहता हूँ कि उस स्थिति में मुझे कैसा लगता है ।
- १० क. मैं रीति-रिवाज के अनुकूल रहना पसन्द करता हूँ और ऐसा कुछ नहीं करना चाहता जिसे आदरणीय जन परम्परा-विरुद्ध समझते हैं ।
- ख. मैं अपने मित्रों के व्यक्तित्व पर विचार करना और यह समझने की कोशिश करना पसन्द करता हूँ कि वे जैसे भी हैं इसका कारण क्या है ।
- ११ क. मैं अपनी चिट्ठियाँ और दूसरे कागज-पत्र कागज-पत्र से अलग-अलग फाइल बनाकर रखना पसन्द करता हूँ ।
- ख. मैं अपने को दूसरों की परिस्थिति में रखकर यह समझना चाहता हूँ कि उस स्थिति में मुझे कैसा लगता है ।
- १२ क. मैं अपनी सफलताओं के बारे में बातें करना पसन्द करता हूँ ।
- ख. मैं दूसरों के व्यवहारों का अध्ययन और विश्लेषण करना पसन्द करता हूँ ।
- १३ क. मैं ऐसे मौकों से बचना चाहता हूँ जहाँ मुझ पर रीति-रिवाज निभाने की आशा की जाय ।
- ख. मैं दूसरों की अनुमति और इच्छाओं की ध्यान-वीन करना पसन्द करता हूँ ।
- १४ क. मैं ऐसी पहेलियाँ और समस्याएँ हल करना पसन्द करता हूँ जो दूसरों के लिए मुश्किल पड़ती हैं ।
- ख. मैं चाहता हूँ कि मेरे मित्र मुझसे अधिक-से-अधिक स्नेह रखें ।
- १५ क. कोई योजना बनाने समय मैं उन लोगों से गुंजाव लेना पसन्द करता हूँ जिनके विचारों का मैं आदर करता हूँ ।
- ख. मैं चाहता हूँ कि मेरे मित्र मुझसे सहृदयता का बताने करें ।
- १६ क. किसी काम को शुरू करने के पहले उसकी योजना बना लेना और उसकी तैयारी कर लेना मुझे पसन्द है ।
- ख. किसी काम में असफल होने पर मैं चाहता हूँ कि मेरे मित्र मुझे प्रोत्साहित करें ।
- १७ क. दूसरों की बीमारी पर मैं ऐसी वेश-भूषा करना चाहता हूँ कि लोगों की नगाहे मरी और उठें और लोग उस पर अपनी राय दें ।
- ख. जब मैं बीमार होता हूँ तो चाहता हूँ कि मेरे मित्र मेरे लिए दुखी हों ।
- १८ क. मैं अधिकारी-बगं के लोगों की आलोचना करना पसन्द करता हूँ ।
- ख. मैं चाहता हूँ कि मेरे मित्र मेरे छोटे-मोटे काम खुशी-खुशी कर दिया करें ।
- १९ क. मैं ऐसी पहेलियाँ और समस्याएँ हल करना पसन्द करता हूँ जो दूसरों के लिए मुश्किल पड़ती हैं ।
- ख. मैं लोगों को यह बताना चाहता हूँ कि उन्हें अपना काम किस ढंग से करना चाहिए ।
- २० क. मैं रीति-रिवाज के अनुकूल रहना पसन्द करता हूँ और ऐसा कुछ नहीं करना चाहता जिसे आदरणीय जन परम्परा-विरुद्ध समझते हैं ।
- ख. अवसर मिलने पर मैं दूसरों के कार्यों की देख-रेख करना तथा उन्हें आदेश देना पसन्द करता हूँ ।
- २१ क. मैं अपनी काम की जगह या मेज पर सब चीजें ढंग से सजाकर रखना पसन्द करता हूँ ।
- ख. किसी समिति में काम करने पर मैं चाहता हूँ कि मुझे उसका अध्यक्ष बनाया जाय ।

४४ क. दूसरों के सामने मैं अपनी महादुरी और जीवन की आश्चर्यजनक दास्तान सुनाता पसन्द करता हूँ ।

ख. मैं जो चाहता हूँ बड़ी करने के लिए दूसरों को समझा-बुझा कर राजी करना और उन पर अपना प्रभाव डालना पसन्द करता हूँ ।

४५ क. मुझे ऐसे काम करना पसन्द है जिन्हें रीति-रिवाज के किसी समझा जाता है ।

ख. मेरी इच्छा रहती है कि दूसरे लोग मुझे अपना नेता मानें ।

४६ क. मैं यह चाहता हूँ कि मुझे किसी व्यवसाय कार्य या विशेष ज्ञान के क्षेत्र में विशेष माना जाय ।

ख. अगर मुझसे कोई गलती हो जाती है तो मैं यह महसूस करता हूँ कि मुझे इसकी सजा भुगतनी चाहिए ।

४७ क. कोई योजना बनाने समय मैं उन लोगों से सलाह लेना पसन्द करता हूँ जिनके विचारों का मैं आदर करता हूँ ।

ख. कोई ऐसा काम कर बैठने पर जिसे मैं गलत मानता हूँ, मैं यह महसूस करता हूँ कि मैं बौधी हूँ ।

४८ क. यदि मुझे कही बाहर जाना हो तो मैं उसकी पूरी तैयारी पहले से कर लेना पसन्द करता हूँ ।

ख. अगर मुझसे कोई गलती हो जाती है तो मैं यह महसूस करता हूँ कि मुझे इसकी सजा भुगतनी चाहिए ।

४९ क. मैं ऐसे व्यक्तियों का प्रयोग करना पसन्द करता हूँ जिनका अर्थ लोग अक्सर नहीं जानते ।

ख. जिन्हें मैं अपने से बड़ा समझता हूँ उनके सामने भीगी बिल्ली जैसा महसूस करता हूँ ।

५० क. मैं जिम्मेदारियों और बन्धनों से दूर रहना पसन्द करता हूँ ।

ख. मुझे यह महसूस होता है कि मैं अधिकांश बातों में दूसरों से हीन हूँ ।

५१ क. मैं चाहता हूँ कि मैं किसी काम को दूसरों से अधिक अच्छी तरह करने के योग्य बन सकूँ ।

ख. मैं लोगों से दया और सहायता का बतव्य रखना पसन्द करता हूँ ।

५२ क. मैं यह जानना चाहता हूँ कि जिन बातों में मेरी दिलचस्पी है उनके बारे में महान व्यक्तियों के क्या विचार हैं ।

ख. आपत्ति के समय मैं अपने मित्रों की सहायता करना पसन्द करता हूँ ।

५३ क. मैं जब कुछ लिखता हूँ तो चाहता हूँ कि मेरी लिखावट ठीक ठीक, साफ और सुव्यवस्थित रहे ।

ख. मैं उन लोगों की मुसीबतों में काम आना चाहता हूँ जो मुझ से बुरी स्थिति में हैं ।

५४ क. मैं ऐसी बातें करना पसन्द करता हूँ जिन्हें लोग मूर्ख-बुद्ध की और दिलचस्पी समझें ।

ख. मैं चाहता हूँ कि मेरे मित्र मुझे अपना विश्वासपात्र समझें और अपनी कठिनाइयाँ मुझे बताएं ।

५५ क. मैं चाहता हूँ कि मुझे जो कुछ करना है उसका पैसला बिना किसी दूसरे की मदद के खद ककूँ ।

ख. अगर मुझे किसी मित्र से कुछ पढ़ना आता है तो मैं उसे भुना देना पसन्द करता हूँ ।

५६ क. मैं जो भी काम लेता हूँ उसे सफलतापूर्वक पूरा करना पसन्द करता हूँ ।

ख. मैं यात्रा करना और नई-नई जगहों देखना पसन्द करता हूँ ।

५७ क. मैं आदेशों का पालन करना तथा जिस बात की मुझसे उम्मीद की जाती हो उसे पूरा करना पसन्द करता हूँ ।

ख. मैं देश में इधर-उधर जाना और नई-नई जगहों में रहना पसन्द करता हूँ ।

५८ क. मैं कोई मुश्किल काम शुरू करने के पहले उसकी एक योजना बना लेना पसन्द करता हूँ ।

ख. मुझे नए-नए लोगों से मिलना-जुलना अच्छा लगता है ।

५९ क. दोस्तों की मण्डली में मनोरंजक किरसे और खुटकुले सुमाना मुझे अच्छा लगता है ।

ख. जो बातें सदा से होती चली आ रही हैं उनकी जगह नई-नई चीजें करना मुझे अच्छा लगता है ।

ख. जो बातें सदा से होती चली आ रही हैं उनकी जगह नई-नई चीजें करना मुझे अच्छा लगता है ।

६० क. मैं चाहता हूँ कि जहाँ भी जावे, बिना किसी रोक-टोक के आ-जा सकूँ ।

ख. मैं किसी एक ही होटल या बसपान-गृह के बजाय नए-नए होटलों और बसपान-गृहों में जाना पसन्द करता हूँ ।

६१ क. मैं चाहता हूँ कि मैं किसी काम को दूसरों से अधिक अच्छी तरह करने के योग्य बन सकूँ ।

ख. जब मुझे कोई काम सौंप दिया जाता है तो मैं उसे तुरन्त शुरू कर देना और जब तक वह पूरा न हो जाय, उसमें लगे रहना पसन्द करता हूँ ।

६२ क. अपने से अष्ट लोग जब किसी काम को अच्छे ढंग से करते हैं तो उनकी तारीफ करने की भी चाहता हूँ ।

ख. मैं एक काम पूरा करने के बाद ही किसी दूसरे काम में हाथ लगाना पसन्द करता हूँ ।

६३ क. मैं जब कुछ लिखता हूँ तो चाहता हूँ कि मेरी लिखावट ठीक-ठीक, साफ और सुव्यवस्थित रहे ।

ख. जब मुझे कोई काम सौंप दिया जाता है तो मैं उसे तुरन्त शुरू देना और जब तक वह पूरा न हो जाय, उसमें लगे रहना पसन्द करता हूँ ।

- ६४ क. कभी-कभी मैं कोई काम तिरों बड़ देखने के लिए करना पसन्द करता हूँ कि उसका दूसरों पर क्या असर होता है।
 ख. यह महसूस करते हुए भी कि काम आगे नहीं बढ़ रहा है, मैं मैं उस काम या समस्या में लगे रहना पसन्द करता हूँ।
- ६५ क. मैं चाहता हूँ कि जहाँ भी जाँह, बिना किसी रोक-टोक के भी-या सकूँ।
 ख. किसी काम को पूरा करने के लिए बेर तक काम करते रहना मुझे पसन्द है।
- ६६ क. मैं ऐसे काम करना चाहता हूँ जिन्हें दूसरे लोग समझते हैं कि इनमें बड़ी कुशलता और परिश्रम की आवश्यकता है।
 ख. वह कियों की निगाह - सुन्दर लगना मुझे अच्छा लगता है।
- ६७ क. अपने समूह का कार्य-क्रम दूसरे सदस्यों द्वारा तय किया जाना मुझे पसन्द है।
 ख. मैं लड़कों में दोस्ती करना पसन्द करता हूँ।
- ६८ क. मैं अपना जीवन-क्रम इस तरह व्यवस्थित कर लेना पसन्द करता हूँ जो बिना किसी खास हेर-फेर के आसानी से करता रहूँ।
 ख. मैं ऐसे व्यक्तियों सुनना-सुनाना पसन्द करता हूँ जिनमें प्यार-मुहब्बत की बातें हों।
- ६९ क. मैं जान-बूझकर ऐसे प्रश्न पूछना पसन्द करता हूँ जिनका जवाब कोई न दे सके।
 ख. मैं ऐसी कहानियाँ और उर्बन्यास पढ़ना पसन्द करता हूँ जिनमें काम-वृत्ति (सेक्स) की प्रधानता हो।
- ७० क. मुझे ऐसे काम करना पसन्द है जिन्हें गीति-रिवाज के विरुद्ध समझा जाता है।
 ख. मैं ऐसी बहस या बात-चीत में भाग लेना पसन्द करता हूँ जिसका विषय काम-वृत्ति (सेक्स) हो।
- ७१ क. मैं चाहता हूँ कि मुझे यह कहने का अवसर मिले कि मैं किसी मुश्किल काम को बड़ी अच्छी तरह कर सका हूँ।
 ख. मैं लोगों को जैसा समझता हूँ वैसा उन्हें बता देना पसन्द करता हूँ।
- ७२ क. मैं जिनकी कद्र करता हूँ उनकी तारीफ करना पसन्द करता हूँ।
 ख. जब कोई मेरा अपमान करता है तो उससे बदला लेने को जी चाहता है।
- ७३ क. मैं अपनी थिठियाँ और दूसरे कागज-पत्र कायदे से अलग-अलग फाइल बनाकर रखना पसन्द करता हूँ।
 ख. मुझे उन विचारों का खण्डन करना अच्छा लगता है जो मेरे अपने विचारों के विरुद्ध हों।
- ७४ क. मैं ऐसे शब्दों का प्रयोग करना पसन्द करता हूँ जिनका अर्थ लोग अक्सर नहीं जानते।
 ख. मैं कभी-कभी इतना गुस्से में आ जाता हूँ कि 'बीबी' को उठा-पटक और तोड़-फोड़ देने का जी चाहता है।

- ७५ क. किसी विषय में मैं जो कुछ महसूस करता हूँ उसे कह देना पसन्द करता हूँ।
 ख. जब मेरे साथ कोई गड़बड़ी होती है तो दूसरों को बोध देने को मेरा जी चाहता है।
- ७६ क. मैं अपने मित्रों के प्रति तफादार रहना पसन्द करता हूँ।
 ख. मैं जिस काम में हाथ लगाता हूँ उसे खूब अच्छी तरह करना पसन्द करता हूँ।
- ७७ क. मैं अपनी इच्छाओं और अनुभूतियों की आन-बीन करना पसन्द करता हूँ।
 ख. मैं ऐसी पहेलियाँ और समस्याएँ हल करना पसन्द करता हूँ जो दूसरों के लिए मुश्किल पड़ती हैं।
- ७८ क. अपनी किसी समस्या में उलझ होने पर मैं चाहता हूँ कि हूँ कि मेरे मित्र मेरी कठिनाई समझें और मुझसे सहानुभूति रखें।
 ख. मैं ऐसा काम करना चाहता हूँ जिन्हें दूसरे लोग समझते हैं कि इनमें बड़ी कुशलता और परिश्रम की आवश्यकता है।
- ७९ क. मैं चाहता हूँ कि लोग मुझे अपने झगड़े निपटाने तथा बीच-बचाव करने को कहें।
 ख. मैं चाहता हूँ कि मुझे यह कहने का अवसर मिले कि मैं किसी मुश्किल काम को बड़ी अच्छी तरह कर सका हूँ।
- ८० क. अपनी ही बात रखने की कोशिश करने के बजाय कोशिश करके झगड़ा बचा लेना मुझे ज्यादा अच्छा भागूम होता है।
 ख. मैं चाहता हूँ कि मैं कोई बड़ी किताब लिख सकूँ।
- ८१ क. मुझे अपने मित्रों के काम आना अच्छा लगता है।
 ख. मैं जिन लोगों की कद्र करता हूँ उन्हें अपना नेता मानना मुझे पसन्द है।
- ८२ क. मैं लोगों को परखने में यह देखना चाहता हूँ कि वे कोई काम क्यों करते हैं, न कि वे वास्तव में क्या करते हैं।
 ख. अपने समूह का कार्य-क्रम दूसरे सदस्यों द्वारा तय किया जाना मुझे पसन्द है।
- ८३ क. किसी काम में असफल होने पर मैं चाहता हूँ कि मेरे मित्र मुझे प्रोत्साहित करें।
 ख. अपने से बड़े लोग जब किसी काम को अच्छे ढंग से करते हैं तो उनकी तारीफ करने को जी चाहता है।
- ८४ क. मैं लोगों को यह बताना चाहता हूँ कि उन्हें अपना काम किस ढंग से करना चाहिए।
 ख. मैं जिनकी कद्र करता हूँ उनकी तारीफ करना पसन्द करता हूँ।
- ८५ क. कोई गलत काम कर देने पर मैं यह महसूस करता हूँ कि मुझे अपनी गलती मान लेनी चाहिए।
 ख. महान् पुरुषों की जीवनियाँ पढ़ना मुझे अच्छा लगता है।

- ४६ क मैं अपने मित्रों के प्रति बकावार रहना पसन्द करता हूँ ।
 ख मैं जब कुछ लिखता हूँ तो चाहता हूँ कि मेरी लिखावट ठीक ठीक, साफ और सुव्यवस्थित रहे ।
- ४७ क मैं पहले से ही यह भाव लेना चाहता हूँ कि मेरे मित्र किसी परिस्थिति में क्या करने वाले हैं ।
- ४८ क मुझे किस समय क्या खाना चाहिए यह निश्चित रखना तथा निश्च ठीक समय से खा लेना पसन्द है ।
- ४९ क मैं चाहता हूँ कि मेरे मित्र मुझसे सहायता का बर्ताव करें ।
 ख किसी काम को शुरू करने के पहले उसकी योजना बना लेना और उसकी तैयारी कर लेना मुझे पसन्द है ।
- ५० क अपनी बात का विरोध होने पर मैं उसे ठीक साबित करने की कोशिश करना पसन्द करता हूँ ।
 ख मैं जिस समय बात रचाना चाहिए यह निश्चित रखना तथा निश्च ठीक समय से खा लेना पसन्द है ।
- ५१ क कोई गलत काम कर देने पर मैं यह महसूस करता हूँ कि मुझे अपनी गलती मान लेनी चाहिए ।
 ख यदि मुझे कहीं बाहर जाना हो तो मैं उसकी पूरी तैयारी पहले से कर लेना पसन्द करता हूँ ।
- ५२ क मैं अधिक-से-अधिक मित्र बनाना पसन्द करता हूँ ।
 ख मैं अपनी सफलताओं के बारे में बातें करना पसन्द करता हूँ ।
- ५३ क मैं दूसरों की अनुभूतियों और इच्छाओं की खान-बीन करना पसन्द करता हूँ ।
 ख दूसरों के बीच होने पर मैं ऐसी बेव-भूषा रखना चाहता हूँ कि लोगों की निगाहें मेरी ओर उठें और लोग उस पर अपनी राय दें ।
- ५४ क जब मैं कभी उदास होता हूँ तो चाहता हूँ कि मेरे मित्र मुझसे सहानुभूति रखें और मेरा उत्साह बढ़ाएं ।
 ख मैं अपनी सफलताओं के बारे में बातें करना पसन्द करता हूँ ।
- ५५ क मेरी इच्छा रहती है कि दूसरे लोग मुझे अपना नेता मानें ।
 ख दूसरों के बीच होने पर मैं ऐसी बेव-भूषा रखना चाहता हूँ कि लोगों की निगाहें मेरी ओर उठें और लोग उस पर अपनी राय दें ।
- ५६ क मुझे यह महसूस होता है कि मैं अधिकतर बातों में दूसरों से हीन हूँ ।
 ख मैं जान-बूझकर ऐसे प्रश्न पूछना पसन्द करता हूँ जिनका जवाब कोई न दे सके ।
- ५७ क मैं अपनी सभी बातों में मित्रों को शामिल रखना पसन्द करता हूँ ।
 ख मैं अधिकारी-वर्ग के लोगों की आलाचना करना पसन्द करता हूँ ।
- ५८ क मैं दूसरों के व्यवहारों का अध्ययन और विश्लेषण करना पसन्द करता हूँ ।
 ख बिना इस बात की परवाह किये हुए कि दूसरे क्या सोचेंगे, मैं अपने मन से काम करना पसन्द करता हूँ ।
- ५९ क जब मुझे कोई तकलीफ हो या मैं बीमार पड़ जाऊँ तो मैं यह चाहता हूँ कि मेरे मित्र इसे काफी महत्व दें ।
 ख मैं अधिकारी-वर्ग के लोगों की आलोचना करना पसन्द करता हूँ ।
- ६० क मैं जा चाहता हूँ वही करने के लिए दूसरों की समझा-बुझा कर राजी करना और उन पर अपना प्रभाव डालना पसन्द करता हूँ ।
 ख मैं ऐसे मौकों से बचना चाहता हूँ जहाँ मुझसे रीति-रिवाज निभाने की आशा की जाय ।
- ६१ क जिन्हें मैं अपने ने दृष्टा समझता हूँ उनके सामने भीवी बिल्ला जैना महसूस करता हूँ ।
 ख मैं जिम्मेदारियों और बन्धनों से दूर रहना पसन्द करता हूँ ।
- ६२ क मैं अपने मित्रों के प्रति उदार रहना पसन्द करता हूँ ।
 ख मैं अपने मित्रों से सनिष्ठ सम्बन्ध रखना पसन्द करता हूँ ।
- ६३ क मैं अपनी इच्छाओं और अनुभूतियों की खान-बीन करना पसन्द करता हूँ ।
 ख मैं नए दोस्त बनाना पसन्द करता हूँ ।
- ६४ क किसी परेशानी में पड़ने पर मेरी इच्छा होती है कि मेरे मित्र मेरी सहायता करें ।
 ख मैं कोई काम अकेले करने के बजाय अपने मित्रों के साथ करना पसन्द करता हूँ ।
- ६५ क मैं चाहता हूँ कि लोग मुझे अपने शगड़े निपटाने तथा बीच-बचाव करने को कहें ।
 ख मैं नये दोस्त बनाना पसन्द करता हूँ ।
- ६६ क कोई ऐसा काम कर बैठने पर जिसे मैं गलत मानता हूँ, मैं यह महसूस करता हूँ कि मैं बीवी हूँ ।
 ख मैं कोई काम अकेले करने के बजाय अपने मित्रों के साथ करना पसन्द करता हूँ ।
- ६७ क मुझे अपने मित्रों की चिट्ठियां भिजाना अच्छा लगता है ।
 ख मैं पहले से ही यह भाव लेना चाहता हूँ कि मेरे मित्र किसी परिस्थिति में क्या करने वाले हैं ।
- ६८ क मैं नए डम और नई चाल अपनाया पसन्द करता हूँ ।
 ख मैं दूसरों के व्यवहारों का अध्ययन एवं विश्लेषण करना पसन्द करता हूँ ।
- ६९ क किसी परेशानी में पड़ने पर मेरी इच्छा होती है कि मेरे मित्र मेरी सहायता करें ।
 ख मैं यह समझना चाहता हूँ कि मेरे मित्र उन समस्याओं के बारे में जिनका मैं सामना करते हूँ, क्या अनुभव करते हैं ।

- १०६ क. मैं चाहता हूँ कि अपने संगठन या अपनी मण्डली में मेरा स्थान नेताओं में रहे।
 ख. मैं यह देखना चाहता हूँ कि कोई व्यक्ति किसी खास परिस्थिति में कैसा महसूस करता है।
- ११० क. अपनी कोई बात बिगड़ जाने पर मैं यह महसूस करता हूँ कि उससे मेरा ही दोष सबसे अधिक है।
 ख. मैं लोगों को परखने में यह देखना चाहता हूँ कि वे कोई काम क्यों करते हैं, न कि वे वास्तव में क्या करते हैं।
- १११ क. मैं नये दोस्त बनाना पसन्द करता हूँ।
 ख. अपनी किसी समस्या में उलझे होने पर मैं चाहता हूँ कि मेरे मित्र मेरी कठिनाई समझें और मुझसे सहानुभूति रखें।
- ११२ क. मैं यह देखना चाहता हूँ कि कोई व्यक्ति किसी खास परिस्थिति में कैसा महसूस करता है।
 ख. जब मैं कभी उदास होता हूँ तो चाहता हूँ कि मेरे मित्र मुझसे सहानुभूति रखें और मेरा उत्साह बढ़ाएं।
- ११३ क. जब मैं किसी काम में लगा होता हूँ तो चाहता हूँ कि इसमें कोई बाधा या रुकावट न हो।
 ख. मैं चाहता हूँ कि मेरे मित्र मुझसे अधिक-से-अधिक स्नेह रखें।
- ११४ क. किसी समिति में काम करने पर मैं चाहता हूँ कि मुझे उसका अध्यक्ष बनाया जाय।
 ख. मैं चाहता हूँ कि मेरे मित्र मेरे छोटे-मोटे काम खुशी-खुशी कर दिया करें।
- ११५ क. मैं ऐसा महसूस करता हूँ कि जो दुःख और मुसीबतें मैंने झेली हैं उनसे मुझे हानि की अपेक्षा लाभ अधिक है।
 ख. किसी परेशानी में पड़ने पर मेरी इच्छा होती है कि मेरे मित्र मेरी सहायता करें।
- ११६ क. मैं कोई काम अकेले करने के बजाय मित्रों के साथ करना पसन्द करता हूँ।
 ख. अक्सर मिलने पर मैं दूसरों के कामों की देख-रेख करना तथा उन्हें आदेश देना पसन्द करता हूँ।
- ११७ क. मैं यह समझना चाहता हूँ कि मेरे मित्र उन समस्याओं के बारे में जिनका वे सामना करते हैं, कैसा अनुभव करते हैं।
 ख. किसी मण्डली में काम करने पर मैं चाहता हूँ कि यह निर्णय मैं स्वयं करूँ कि मण्डली का अगला कार्य-क्रम क्या हो।
- ११८ क. जब मुझे कोई तकलीफ हो या मैं बीमार पड़ जाऊँ तो यह चाहता हूँ कि मेरे मित्र इसे काफी महत्व दें।
 ख. मैं चाहता हूँ कि अपने संगठन या अपनी मण्डली में मेरा स्थान नेताओं में रहे।
- ११९ क. लड़कियों की निगाह में सुन्दर लगना मुझे अच्छा लगता है।
 ख. मेरी इच्छा रहती है कि दूसरे लोग मुझे अपना कैता मानें।
- १२० क. कोई ऐसा काम कर बैठने पर जिसे मैं बसत मानस हूँ, मैं वह महसूस करता हूँ कि मैं बोधी हूँ।
 ख. अपनी बात का विरोध होने पर मैं उसे ठीक साबित करने की कोशिश करना पसन्द करता हूँ।
- १२१ क. मुझे अपने मित्रों की चिट्ठियाँ लिखना अच्छा लगता है।
 ख. अपनी ही बात करने के बजाय थोड़ा देवकर झगड़ा क्या लगना मुझे अच्छा मालूम होता है।
- १२२ क. मैं यह देखना चाहता हूँ कि कोई आदमी किसी खास परिस्थिति में कैसा महसूस करता है।
 ख. मैं ऐसा महसूस करता हूँ कि जो दुःख और मुसीबतें मैंने झेली हैं उनसे मुझे हानि की अपेक्षा लाभ अधिक हुआ है।
- १२३ क. जब मुझे कोई तकलीफ हो या मैं बीमार पड़ जाऊँ तो मैं वह चाहता हूँ कि मेरे मित्र इसे काफी महत्व दें।
 ख. विभिन्न परिस्थितियों को संभाल न पाने पर मुझे अपनी अयोग्यता का दुःख होता है।
- १२४ क. किसी समिति में काम करने पर मैं चाहता हूँ कि मुझे उसका अध्यक्ष बनाया जाय।
 ख. अपनी कोई बात बिगड़ जाने पर मैं यह महसूस करता हूँ कि उसमें मेरा ही दोष सबसे अधिक है।
- १२५ क. मैं उनकी हसी उड़ाना पसन्द करता हूँ जिन्हें मैं समझता हूँ कि वे बेबकूफी का काम करते हैं।
 ख. विभिन्न परिस्थितियों को संभाल न पाने पर मुझे अपनी अयोग्यता का दुःख होता है।
- १२६ क. मैं ऐसी मण्डली में रहना पसन्द करता हूँ जहाँ आपस में मैत्री-भाव तथा स्नेह रहे।
 ख. मैं अपने मित्रों से काफी प्रेम-भाव रखना पसन्द करता हूँ।
- १२७ क. मैं अपने मित्रों के व्यक्तित्व पर विचार करना और यह समझने की कोशिश करना पसन्द करता हूँ कि वे जैसे भी हैं इसका कारण क्या है।
 ख. अगर मुझे किसी मित्र से दुःख पहुँच जाता है तो मैं उसे खुला देना पसन्द करता हूँ।
- १२८ क. मैं चाहता हूँ कि मेरे मित्र मुझसे सत्यता का व्यवहार करें।
 ख. मैं अपने मित्रों के प्रति खबर रहना पसन्द करता हूँ।
- १२९ क. अक्सर मिलने पर मैं दूसरों के कामों की देख-रेख करना तथा उन्हें आदेश देना पसन्द करता हूँ।
 ख. मैं अपने मित्रों के साथ कर देना पसन्द करता हूँ।
- १३० क. कोई मजदूर काम कर देने पर मैं वह महसूस करता हूँ कि मुझे अपनी बसती मान लेनी चाहिए।
 ख. वे लोगों से दया और सहानुभूति का अर्थ रखना पसन्द करता हूँ।

१३१ क. मैं अपने मित्रों से व्यक्तिगत सम्बन्ध रखना पसन्द करता हूँ।
ख. मैं ऐसी चीजें करना पसन्द करता हूँ जिनमें कोई नई बात हो।

१३२ क. मैं पहले न ही यह भाव लेना चाहता हूँ कि मेरे मित्र किसी परिस्थिति में क्या करके वाले हैं।

ख. मैं नए-नए कामों में हाथ लगाना और उन्हें आजमाना पसन्द करता हूँ।

१३३ क. जब मैं बर्बाद होना शुरू होता हूँ तो चाहता हूँ कि मेरे मित्र मुझसे सहायता रखें और मेरा उत्साह बढ़ाएं।

ख. मैं नए ढंग और नई वस्तुएं अपनाना पसन्द करता हूँ।

१३४ क. मैं लोगों का बहु बोलना चाहता हूँ कि उन्हें अपना काम किस ढंग से करना चाहिए।

ख. मैं किसी चीज को पसन्द करता हूँ जिनमें कोई नई बात हो।

१३५ क. जबभी कोई बात बिगड़ जाने पर मैं यह महसूस करता हूँ कि उसमें मेरा ही दोष सबसे अधिक है।

ख. मैं किसी एक ही हाटल या जलपान-गृह के बजाय नए-तए हाटलों और जलपान गृहों में जाना पसन्द करता हूँ।

१३६ क. मुझे अपने मित्रों के नाम आना अच्छा लगता है।

ख. मैं जिस काम का शुरू करता हूँ उसे पूरा कर देना ही पसन्द करता हूँ।

१३७ क. मैं अपने मित्रों के व्यवहार पर विचार करना और यह समझने की कोशिश करना पसन्द करता हूँ कि वे कैसे भी हैं इसका कारण क्या है।

ख. जब मैं किसी काम में लगा होता हूँ तो चाहता हूँ कि इसमें कोई बाधा या रुकावट न हो।

१३८ क. अपनी किताबों में जो चीजें हैं उन पर मैं चाहता हूँ कि मेरे मित्र योग्य कठिनाई समझें और मुझसे सहायता रखें।

ख. मैं चाहता हूँ कि बिना ध्यान दिए घटो काम करता रहूँ।

१३९ क. किसी मण्डली में काम करने पर मैं चाहता हूँ कि यह निर्णय मैं स्वयं करूँ कि मण्डली का अगला कार्य-क्रम क्या हो।

ख. यह महसूस करत हुए भी कि काम आगे नहीं बढ़ रहा है, मैं उस काम या समस्या में लग रहता पसन्द करता हूँ।

१४० क. अगर मुझसे कोई गलती हो जाती है तो मैं यह महसूस करता हूँ कि मुझे इसका सजा भुगतनी चाहिए।

ख. मैं किसी समस्या या पहेली में उस समय तक लगे रहना पसन्द करता हूँ जब तक कि वह हल न हो जाय।

१४१ क. मैं अधिक-से-अधिक मित्र बनाना पसन्द करता हूँ।

ख. मैं ऐसे उत्सवों तथा कार्य-क्रमों में भाग लेना पसन्द करता हूँ जिनमें लड़ाकिया भी शामिल हो।

१४२ क. मैं यह समझना चाहता हूँ कि मेरे मित्र उन समस्याओं के बारे में जिनका वे सामना करते हैं, कैसा अनुभव करते हैं।

ख. मुझे सुन्दर लड़कियों से मिलना-जुलना अच्छा लगता है।

१४३ क. जब मैं बीमार होता हूँ तो चाहता हूँ कि मेरे मित्र मेरे लिए दुखी हों।

ख. मैं लड़कियों से दोस्ती करना पसन्द करता हूँ।

१४४ क. मैं चाहता हूँ कि अपने समस्त या अपनी मण्डली में मेरा स्थान नेताओं में रहे।

ख. लड़कियों के साथ कहीं जना मुझे अच्छा लगता है।

१४५ क. विभिन्न परिस्थितियों को समझना न पाने पर मुझे अपनी असमर्थता का दुःख होता है।

ख. लड़कियों के साथ गप-शप करना मुझे अच्छा लगता है।

१४६ क. मैं अपनी सभी बातों में मित्रों को शामिल रखना पसन्द करता हूँ।

ख. मैं उस आदमी की खुलेआम आलोचना करना पसन्द करता हूँ जिसे मैं इसके योग्य समझता हूँ।

१४७ क. मैं दूसरों की अनुभूतियों और इच्छाओं की छान-बीन करना पसन्द करता हूँ।

ख. जब मैं दूसरों से असहमत होता हूँ तो उन्हें यह बात दो-दूक बता देना पसन्द करता हूँ।

१४८ क. जब मैं बीमार होता हूँ तो चाहता हूँ कि मेरे मित्र मेरा हाल दुखा हो।

ख. मैं हस्ता तथा मार-काट की खबरें पढ़ना और सुनना पसन्द करता हूँ।

१४९ क. मेरी इच्छा रहती है कि दूसरे लोग मुझ अपना नेता मानें।

ख. मैं उनकी हसी लड़ाना पसन्द करता हूँ जिन्हें मैं समझता हूँ कि वे बेकूफी का काम करते हैं।

१५० क. जिन्हें मैं अपने से बड़ा समझता हूँ उनके सामने भीखी बरतली जंभा महसूस करता हूँ।

ख. मैं कभी-नभी इतना गुस्से में आ जाता हूँ कि चीजों को उठा-पटक और तोड़-फाड़ देने की जी चाहता हूँ।

१५१ क. मैं मित्रों के दुःख-दर्द में शरीक होना पसन्द करता हूँ।

ख. मैं जो भी काम हाथ में लेता हूँ उसे सफलतापूर्वक पूरा करना पसन्द करता हूँ।

१५२ क. मैं यात्रा करना और नई-नई जगहें देखना पसन्द करता हूँ।

ख. मैं चाहता हूँ कि मैं कोई ऐसा काम करूँ जिसका बड़ा महत्व हो।

१५३ क. मैं जिस काम का शुरू करता हूँ उसे पूरा कर देना ही पसन्द करता हूँ।

ख. मैं चाहता हूँ कि मैं किसी काम को दूसरों से अधिक अच्छा तरह करने के योग्य बन सकूँ।

- १४४ क. मैं ऐसे घटने सुनना-सुनाना पसन्द करता हूँ जिनमें प्यार-महबूबत की बातें हों।
 ख. मैं चाहता हूँ कि मुझे घटने-महबूबत मिले कि मैं किसी मुश्किल काम को अड़ी-र सका हूँ।
- १४५ क. जब मैं दूसरों से असहमत होता हूँ तो उन्हें यह बात बोझ बताना पसन्द करता हूँ।
 ख. मैं ऐसे काम करना चाहता हूँ जिन्हें दूसरे लोग समझते हैं कि मैं नहीं कर सकता और परिश्रम की आवश्यकता है।
- १४६ क. मैं अपनी श्रेष्ठ-भाव रखना पसन्द करता हूँ।
 ख. मैं चाहता हूँ उन्हें अपना नेता मानना दूँ।
- १४७ क. मैं अपने लक्ष्यों में मिलना जुलना अच्छा समझता हूँ।
 ख. मैं जीवन-विवाह के अनुकूल रहना पसन्द करता हूँ और ऐसा कुछ नहीं करना चाहता जिसे सामाजिक जन-परम्परा-विरोध समझते हैं।
- १४८ क. मैं जो भी काम हाथ में लेता हूँ उसे पूरे विश्राम से करना पसन्द करता हूँ।
 ख. महान् पुण्य की जीवनियाँ पढ़ना मैं प्रच्छा लगता हूँ।
- १४९ क. मुझे सुन्दर लड़कियों से मिलना-जुलना अच्छा लगता है।
 ख. अपने समूह का कार्य-क्रम दूसरे सदस्यों द्वारा तय किया जाना मुझे पसन्द है।
- १५० क. मुझे उन विभागों का खन्डन करना अच्छा लगता है जो मेरे अपने विभागों के विरोध हो।
 ख. मैं जिनकी कद्र करता हूँ उनकी तारीफ करना पसन्द करता हूँ।
- १५१ क. आपत्ति के समय मैं अपने मित्रों की सहायता करना पसन्द समझ लेना पसन्द करता हूँ।
- १५२ क. मैं नए-नए कामों में हाथ लगाना और उन्हें आख्यान पसन्द करता हूँ।
 ख. मैं अपनी काम करने की जगह या वेग पर सा-बीजे छप से सजाकर रखना पसन्द करता हूँ।
- १५३ क. मैं किसी समस्या या पहेली में उस समय तक लगे रहना पसन्द करता हूँ जब तक कि वह हल न हो जाय।
 ख. मैं अपनी चिट्ठियाँ और दूसरे कागज-पत्र कागदों से अनक-र फाइल बनाकर रखना पसन्द करता हूँ।
- १५४ क. मैं ऐसे उत्सवों तथा कार्यक्रमों में भाग लेना पसन्द करता हूँ जिनमें लड़कियाँ भी शामिल हों।
 ख. किसी काम को शुरू करने के पहले उसकी योजना बना लेना और उसकी पैगारी कर लेना मुझे पसन्द है।
- १५५ क. मैं लोगों की जैसा समझता हूँ वैसे उन्हें बताना पसन्द करता हूँ।
 ख. मुझे किस समय क्या खाना पानी निश्चित रखना सजा-निय ठीक समय से खा लेना पसन्द है।
- १५६ क. मैं अपने मित्रों के काम कर देना पसन्द करता हूँ।
 ख. मैं ऐसी बातें करना पसन्द करता हूँ जिन्हें लोग सुन-सुन ही और विलक्षण समझें।
- १५७ क. मैं अपने दैनिक कार्य-क्रम में हेर-फेर करते रहना पसन्द करता हूँ।
 ख. कामों में मैं कोई काम सिर्फ यह देखने के लिए करता हूँ कि उसका दूसरों पर क्या असर होता है।
- १५८ क. यह महसूस करने हुए भी कि काम भागे तभी बड़-बड़ा है, मैं उस काम या समस्या में लगे रहना पसन्द करता हूँ।
 ख. समूह में मैं यह चाहता हूँ कि सब लोग मेरी ही ओर ध्यान दें।
- १५९ क. मैं ऐसी बहम या बात-चीत में भाग लेना पसन्द करता हूँ जिसका विषय कामवृत्ति (सेवक) हो।
 ख. मैं ऐसे शब्दों का प्रयोग करना पसन्द करता हूँ जिसका अर्थ लोग अक्सर नहीं जानते।
- १६० क. जब मेरे माग कोई गड़बड़ी होती है तो दूसरों को बोध देने को मेरा जो चाहता है।
 ख. दूसरों के सामने मैं अपनी गड़बड़ी और अपने जीवन की आवश्यकजनक बातों की दस्तखत सुनाना पसन्द करता हूँ।
- १६१ क. मैं चाहता हूँ कि मेरे मित्र मुझे अपना विश्वास-पान समझें और अपनी कठिनाइयाँ मुझे बताएं।
 ख. मुझे जो कुछ करना है उसके करने में मैं आकाशी महबूब करना चाहता हूँ।
- १६२ क. मैं अपने दैनिक कार्य-क्रम में हेर-फेर करते रहना पसन्द करता हूँ।
 ख. मैं ऐसे मौकों से बचना चाहता हूँ जहाँ मुझसे शीत-रिवाज निभाने की आशा की जाय।
- १६३ क. किसी काम को पूरा करने के लिए देर तक काम करते रहना मुझे पसन्द है।
 ख. मैं चाहता हूँ कि जहाँ भी जाहूँ बिना किसी रोक-टोक के जा-आ सकूँ।
- १६४ क. मैं ऐसी कठिनियाँ और उपन्यास पढ़ना पसन्द करता हूँ जिनमें काम-वृत्ति (सेवक) की प्रधानता हो।
 ख. किसी विषय में मैं जो कुछ महसूस करता हूँ उसे कह देना पसन्द करता हूँ।
- १६५ क. मैं कभी-कभी इतना मुस्से में आ जाता हूँ कि पोंकों की उठा-पटक और चोड़-चोड़ देने को भी चाहता हूँ।
 ख. मुझे ऐसे काम करना पसन्द है जिन्हें शीत-रिवाज के विरोध समझा जाता है।

- १७६ क. मैं अपने मित्रों के प्रति उधार रहना पसन्द करता हूँ ।
 ख. मैं अपने मित्रों से अनिष्ट सम्बन्ध रखना पसन्द करता हूँ ।
- १७७ क. मैं देव मंदिर-दरबार जाना और नई-नई जगहों में रहना पसन्द करता हूँ ।
 ख. मैं ऐसी मण्डली में रहना पसन्द करता हूँ जहाँ आपस में मैत्रीभाव तथा स्नेह रहे ।
- १७८ क. मैं का भी काम अपने हाथ में लेता हूँ उसे पूरे परिश्रम से करना पसन्द करता हूँ ।
 ख. मैं अपने मित्रों के प्रति बकादार रहना पसन्द करता हूँ ।
- १७९ क. लड़कियों के साथ कही जाना मुझे अच्छा लगता है ।
 ख. मैं अपनी सभी बातों में मित्रों को शामिल रखना पसन्द करता हूँ ।
- १८० क. जब कोई मेरा अपमान करता है तो उससे बदला लेने की चाहता हूँ ।
 ख. मैं अधिक-से-अधिक मित्र बनाना पसन्द करता हूँ ।
- १८१ क. मैं अपने मित्रों के काम कर देना पसन्द करता हूँ ।
 ख. मैं अपने को दूसरों की परिस्थिति में रखकर वह समस्या चाहता हूँ कि उस स्थिति में मुझे कैसा लगता है ।
- १८२ क. मैं नए ढंग और नई चलन अपनाना पसन्द करता हूँ ।
 ख. मैं दूसरों के व्यवहारों का अध्ययन और मितेक्षण करना पसन्द करता हूँ ।
- १८३ क. मैं चाहता हूँ कि बिना ध्यान जटार घटों काम करता रहूँ ।
 ख. मैं अपनी दूरदारी और अनुभूतियों को ध्यानबीन करना पसन्द करता हूँ ।
- १८४ क. लड़कियों की निगाह में सुन्दर लगना मुझे अच्छा लगता है ।
 ख. मैं दूसरों की अनुभूतियों और इच्छाओं को ध्यानबीन करना पसन्द करता हूँ ।
- १८५ क. मैं सध आदमी की खले-आम आलोचना करना पसन्द करता हूँ जिसे मैं इसके योग्य समझता हूँ ।
 ख. मैं लोगों को परखने में यह देखना चाहता हूँ कि वे कोई काम क्यों करते हैं, न कि वे वास्तव में क्या करते हैं ।
- १८६ क. मैं चाहता हूँ कि मेरे मित्र मुझे अपना विश्वासपात्र सबजें और अपनी कठिनाइयाँ मुझे बताएँ ।
 ख. मैं चाहता हूँ कि मेरे मित्र मुझसे अधिक-से-अधिक स्नेह रखें ।
- १८७ क. जो बातें सदा से होती चली आ रही हैं उनकी जगह नई-नई चीजें करना मुझे अच्छा लगता है ।
 ख. किसी काम में असफल होने पर मैं चाहता हूँ कि मेरे मित्र मुझे प्रोत्साहित करें ।
- १८८ क. जब मैं किसी काम में जगा होता हूँ तो चाहता हूँ कि इसमें कोई बाधा या रुकावट न हो ।
 ख. मैं चाहता हूँ कि मेरे मित्र मुझसे अधिक-से-अधिक स्नेह रखें ।
- १८९ क. लड़कियों के साथ गप-जप करना मुझे अच्छा लगता है ।
 ख. जब मैं बीमार होता हूँ तो चाहता हूँ कि मेरे मित्र मेरे लिए दुखी हों ।
- १९० क. जब मैं दूसरों से असहमत होता हूँ तो उन्हें यह बात दो-दूक बता देना पसन्द करता हूँ ।
 ख. मैं चाहता हूँ कि मेरे मित्र मेरे छोटे-मोटे काम खुशी-खुशी करें ।
- १९१ क. अगर मुझे किसी मित्र से दुःख पहुँच जाता है तो मैं उसे खुला देना पसन्द करता हूँ ।
 ख. मैं चाहता हूँ कि जोन मुझे अपने झगड़े निपटाने तथा बीज-बचाव करने को कहें ।
- १९२ क. मैं अपने दैनिक कार्य-क्रम में हेर-फेर करते रहना पसन्द करता हूँ ।
 ख. किसी मण्डली में काम करने पर मैं चाहता हूँ कि वह निर्णय मैं स्वयं करूँ कि मण्डली का अगला कार्य-क्रम क्या हो ।
- १९३ क. जब मैं किसी काम में लगा होता हूँ तो चाहता हूँ कि इसमें कोई बाधा या रुकावट न हो ।
 ख. अपनी बात का विरोध होने पर मैं उसे ठीक साबित करने की कोशिश करना पसन्द करता हूँ ।
- १९४ क. लड़कियों की निगाह में सुन्दर लगना मुझे अच्छा लगता है ।
 ख. मेरी इच्छा रहती है कि दूसरे लोग मुझे अपना मित्र मानें ।
- १९५ क. मैं हट्टा तथा मार-काट की खबरें पढ़ना और सुनना पसन्द करता हूँ ।
 ख. मैं जो चाहता हूँ वही करने के लिए दूसरों को समझा-बुझाकर राजी करना और उन पर अपना प्रभाव डालना पसन्द करता हूँ ।
- १९६ क. मैं अपने मित्रों के प्रति उधार रहना पसन्द करता हूँ ।
 ख. अपनी ही बात रखने की वांछित करने के बजाय थोड़ा बचकन झगड़ा बचा लेना मुझे ज्यादा अच्छा मालूम होता है ।
- १९७ क. मैं नए ढंग और नई चलन अपनाना पसन्द करता हूँ ।
 ख. मैं ऐसा महसूस करता हूँ कि जो दुःख और मुसीबतें मैंने झेली हैं उनसे मुझे हानि की अपेक्षा लाभ अधिक हुआ है ।
- १९८ क. अब मुझे कोई काम सोप दिया जाता है तो मैं उसे सुरक्षित ढंग से कर देना और जब तक पूरा न हो जाय, उसमें लगे रहना पसन्द करता हूँ ।
 ख. कोई गलत काम कर देने पर मैं यह महसूस करता हूँ कि मुझे अपनी गलती मान लेनी चाहिए ।
- १९९ क. मैं ऐसी कहानियाँ और उपन्यास पढ़ना पसन्द करता हूँ जिनमें कामवृत्ति (सेक्स) की प्रधानता हो ।
 ख. मुझे यह महसूस होता है कि मैं अधिकांश बातों में दूसरों से होन हूँ ।
- २०० क. मैं उनकी हंसी उड़ाना पसन्द करता हूँ जिन्हें मैं समझता हूँ कि वे बेबकूफी का काम करते हैं ।
 ख. विभिन्न परिस्थितियों को सामल न पाने पर मुझे अपनी अयोग्यता का दुःख होता है ।
- २०१ क. मैं चाहता हूँ कि मैं किसी काम को दूसरों से अधिक अच्छी तरह करने के योग्य बन सकूँ ।
 ख. मैं लोगों से दया और सहानुभूति का बर्ताव रखना पसन्द करता हूँ ।

- २०३ क. मैं माया करना और नई-नई जगह देखना पसन्द करता हूँ।
 ख. मैं उन लोगों की मुसीबतों में काय आना चाहता हूँ जो मुझसे बुरी स्थिति में हैं।
- २०४ क. मैं जो भी काम हाथ में लेता हूँ उसे पूरे परिश्रम से करता पसन्द करता हूँ।
 ख. आशिय के समय में अपने मित्रों की सहायता करना पसन्द करता हूँ।
- २०५ क. मैं ऐसे उरखों तथा कार्य-कर्मों में भाग लेना पसन्द करता हूँ जिनमें लड़कियाँ भी शामिल हों।
 ख. मैं अपने मित्रों से काफ़ी प्रेम-भाव रखना पसन्द करता हूँ।
- २०६ क. मुझे उन विचारों का खण्डन करना अच्छा लगता है जो मेरे अपने विचारों के विरुद्ध हों।
 ख. मैं उन लोगों की मुसीबतों में काम आना चाहता हूँ जो मुझा बुरी स्थिति में हैं।
- २०७ क. मैं लोगों से दया और सहानुभूति का बतर्षि रखना पसन्द करता हूँ।
 ख. मैं दश में दशर-उधर जाना और नई-नई जगहों में रहना पसन्द करता हूँ।
- २०८ क. मैं लोगों का पालन करना तथा नित्य बात की मुझसे सम्भाव का जाता हूँ इस पुरा करना पसन्द करता हूँ।
 ख. मैं दश में दशर-उधर जाना और नई-नई जगहों में रहना पसन्द करता हूँ।
- २०९ क. मैं एक काम पूरा कर लेने के बाद ही किसी दूसरे काम में हाथ लगाना पसन्द करता हूँ।
 ख. जो बातें सदा से होती चली आ रही हैं उनको जगह नई-नई चीज करना मुझे अच्छा लगता है।
- २१० क. मुझे सुन्दर लड़कियों से मिलना-जुलना अच्छा लगता है।
 ख. मैं किसी एक ही होटल या जलपान-घर के बजाय नए-नए होटलों या जलपान-घरों में जाना पसन्द करता हूँ।
- २११ क. मैं रूखा तथा मार-काट की खबरें पढ़ना और सुनना पसन्द करता हूँ।
 ख. मैं आत दिनक कार्यक्रम में हेर-फेर करते रहना पसन्द करता हूँ।
- २१२ क. मैं मित्रों के दुख-दर्द में शरीक होना पसन्द करता हूँ।
 ख. मैं जिस काम का शुरू करना हूँ उसे पूरा कर देना ही पसन्द करता हूँ।
- २१३ क. मुझ नए-नए लोगों से मिलना-जुलना अच्छा लगता है।
 ख. मैं एक काम पूरा कर लेने के बाद ही किसी दूसरे काम में हाथ लगाना पसन्द करता हूँ।
- २१४ क. मैं जब कुछ लिखता हूँ तो चाहता हूँ कि मेरी लिखावट ठाक-ठीक, साफ और सुव्यवस्थित हो।
 ख. जब मुझे कोई काम सौंप दिया जाता है तो मैं उसे तुरन्त शुरू कर देता और जब तक वह पूरा न हो जाय, उसमें लगे रहना पसन्द करता हूँ।
- २१५ क. मैं ऐसे चुन्कुने सुनना-सुनाना पसन्द करता हूँ जिनमें प्यार-महबूब की बातें हों।
 ख. मैं चाहता हूँ कि बिना ध्यान बटाये जण्टों काम कर रहा रहूँ।
- २१६ क. जब कोई मेरा अपमान करता है तो उससे बाला लेने की भी चाहता हूँ।
 ख. मैं किसी समस्या या पहेली में उस समय तक लगे रहूँगा पसन्द करता हूँ जब तक कि वह हल न हो जाय।
- २१७ क. कबरे मुझे किसी मिन से कुछ पढ़ा जाता है तो मैं उसे धुल्ला देना पसन्द करता हूँ।
 ख. मैं लड़कियों से दोस्ती करना पसन्द करता हूँ।
- २१८ क. मैं ऐसी चीजें करना पसन्द करता हूँ जिनमें कोई नई बात हो।
 ख. मैं ऐसे उरखों तथा कार्य-कर्मों में भाग लेना पसन्द करता हूँ जिनमें लड़कियाँ भी शामिल हों।
- २१९ क. किसी काम को पूरा करने के लिए देर तक काम करते रहना मुझे पसन्द है।
 ख. लड़कियों के साथ कहीं जाना मुझे अच्छा लगता है।
- २२० क. मैं जान-बूझकर ऐसे प्रश्न पूछना पसन्द करता हूँ जिनका जवाब कोई न दे सके।
 ख. मैं ऐसी कहानियाँ और उपवास पढ़ना पसन्द करता हूँ जिनमें काम-वृत्ति (संस्क) की प्रधानता हो।
- २२१ क. जब मर माय कोई गड़बड़ी होती है तो दूसरों को दोष देने को मेरा जो चाहता है।
 ख. मेरा बहुत या बहुतों में भाग लेना पसन्द करता हूँ जिनका विषय काम-वृत्ति (संस्क) हो।
- २२२ क. मैं मित्रों के कुछ दर में शरीक होना पसन्द करता हूँ।
 ख. मुझे उन विचारों का खण्डन करना अच्छा लगता है जो मेरे अपने विचारों के विरुद्ध हों।
- २२३ क. मैं नए-नए कामों में हाथ लगाता और उन्हें आजमाना पसन्द करता हूँ।
 ख. मैं लोगों को जैसा समझता हूँ वैसा उन्हें बता देना पसन्द करता हूँ।
- २२४ क. किसी काम का पूरा करने के लिए देर तक काम करते रहना मुझे पसन्द है।
 ख. मैं उस आदमी की खुलेआम आलाचना करना पसन्द करता हूँ जिस में इसले योग्य समझता हूँ।
- २२५ क. लड़कियों के साथ गप-शर करना मुझे अच्छा लगता है।
 ख. मेरे उनका हवा उड़ाना पसन्द करता हूँ जिन्हें मैं समझता हूँ कि वे बचपूरी का काम करते हैं।
- २२६ क. किसी विषय में मैं जो कुछ महसूस करता हूँ उसे कह देना पसन्द करता हूँ।
 ख. जब मेरे साथ कोई गड़बड़ी होती है तो दूसरों को दोष देने को मेरा जो चाहता है।

APPENDIX-4

Occupational Adjustment Scale for Teachers

Dear friend,

This consists of some statements designed to sample opinions of teachers about their job. There are no right or wrong answers. What is wanted, is your own individual feeling about the statements. Read each statement and decide how you feel about it. Then put a tick mark (✓) in any one of the following columns against the given statement in the following manner :

- (1) In the column 'strongly agree' if you agree the statement strongly.
- (2) In the column 'agree' if you just agree the statement.
- (3) In the column 'undecided' if you are unable to make up your opinion about the statement.
- (4) In the column 'disagree' if you just disagree the statement.
- (5) In the column 'strongly disagree' if you disagree the statement strongly.

There is no time limit but work rapidly as you can. Please respond to every item frankly and truthfully. Your responses will be kept secret. They will be used for research purpose only.

Yours sincerely,

(Islam Anwar Zuberi)

Before starting the work please fill in the following :

Name.....

Qualifications :

College/School :

Subject taught :

Salary :

3 No.	Statement	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
1.	Teachers enjoy respect in the society.					
2.	The feeling that I am making future citizens gives me much satisfaction in this job.					
3.	Principals generally follow the policy of divide and rule.					
4.	Hard working teachers are appreciated by the school authorities.					
5.	Teaching is one of the prestigious profession.					
6.	Principals are sympathetic and helpful towards their teachers.					
7.	Teachers in school are generally jealous of one another.					
8.	Salary in teaching job is inadequate which destroys its charm for me.					
9.	Teaching work is monotonous and boring.					
10.	There is no interference from authorities in how I plan and execute my teaching work.					
11.	If irritates ^{me} when I find young pupils to be difficult to understand and handle.					

S. No.	Statement	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
12.	Too much nonsense goes on in many class rooms these days.					
13.	Social prestige of teaching profession is steadily increasing.					
14.	Principals generally act like a dictator,					
15.	Through teaching in a school I feel happy, that I am serving the nation.					
16.	I think management treats teachers better than any organization does					
17.	Teachers job is free from strict oppressive supervision.					
18.	My talents and abilities find adequate expression in teaching profession.					
19.	I feel that teacher should not be made to stay in school beyond fixed school time.					
20.	Teacher's quality of life is improved in teaching job.					
21.	Mostly teachers get sympathy and cooperation from their colleagues.					
22.	Teachers have sufficient say in school affairs					

S. No.	Statement	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
23.	There is security of service in teaching profession.					
24.	Teachers cooperation is not solicited in school discipline.					
25.	The economic conditions of teachers create dissatisfactions for the profession.					
26.	Teacher's point of view is respected in framing school policies and programmes.					
27.	Dealing with children and their problems is an unpleasant part of teachers work.					
28.	There are no opportunities of further advancement in teaching.					
29.	At times I feel distressed at poor results of my class.					
30.	Teachers feel usually satisfied with the economic return of their job.					
31.	My abilities are not properly utilized in the work assigned to me.					
32.	Over burdened with work I tend to postpone the assigned duties so long as possible.					
33.	I feel much relaxed when the Principal is absent from the College.					

S. No.	Statement	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
34.	In view of present conditions of teachers the policy 'of look busy do nothing' is good					
35.	I feel unhappy by lack of physical facilities (furniture & equipments) in school.					
36.	Teaching profession consists of variety of interesting activities.					
37.	Teachers are free to teach the contents according to their own orientation.					
38.	Teachers have every opportunity of self-expression.					
39.	Children now a days are allowed unwanted amount of freedom in the schools.					
40.	The teachers should not be expected to do more work than he is paid for.					
41.	Children must be given more freedom in the class room than they usually get.					
42.	Teaching job is helpful in realization of my life goals and values.					
43.	I feel that I truly do not belong to no other but teaching profession.					

S. No.	Statement	Stron- glyagree	Agree	Undeci- ded	Disa- gree	Strongly disagree
44.	An honest man fails as a teacher now-a-days.					
45.	If I had to do it again I'd still choose teaching					
46.	Principals are generally in the habit of criticising their subordinates for nothing.					
47.	These days in every class room some pupils are arrogant, disobedient and noisy.					
48.	I dislike teaching because there is too much speaking in it.					

APPENDIX-5 & 6

CALCULATION OF THE t-VALUE

General definition of t

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s_{\overline{DX}}}$$

where \bar{X}_1 and \bar{X}_2 are two means and $s_{\overline{DX}}$ is the standar error of difference.

A: Homogeneous data

$$s_{\overline{DX}} = \sqrt{\frac{\sum x_1^2 + \sum x_2^2}{N_1 + N_2 - 2} \left(\frac{1}{N_1} + \frac{1}{N_2} \right)} \quad (\text{For pooled variances})$$
$$d.f. = N_1 + N_2 - 2$$

B: Non-homogeneous data

$$s_{\overline{DX}} = \sqrt{\frac{\sum x_1^2}{N_1(N_1-1)} + \frac{\sum x_2^2}{N_2(N_2-1)}}$$
$$d.f. = \frac{2}{\frac{\frac{(\sum x_1^2)^2}{N_1(N_1-1)}}{N_1+1} + \frac{\frac{(\sum x_2^2)^2}{N_2(N_2-1)}}{N_2+1}} - 2$$

In the above relations N_1 and N_2 are number of cases, and $x^2 = \sum_1 (x_1 - \bar{x})^2$.

APPENDIX-7

Interaction Variables	Symbols	Formula
1. Indirect to direct Ratio	I/D	$= \frac{\text{Cat } 1 + 2 + 3 + 4}{\text{Cat } 5 + 6 + 7}$
2. Modified indirect to direct Ratio	I_2/D_2	$= \frac{\text{Cat } 1+2+3+4a+4b+7p}{\text{Cat } 6 + 7a}$
3. Revised Indirect to Direct Ratio	I/d	$= \frac{\text{cat } 1 + 2 + 3}{\text{cat } 6 + 7}$
4. Teacher Response Ratio	TRR	$= \frac{\text{Cat } 1 + 2 + 3}{\text{Cat } 1 + 2 + 3 + 5 + 7}$
5. Instantaneous Teacher Response Ratio	TRR-89	$= \frac{\text{Sum of Columns 1,2,3 of row 8,9}}{\text{Sum of Columns 1,2,3,6,7 of row 8,9}}$
6. Teacher Question Ratio	TQR	$= \frac{\text{Cat } 4}{\text{Cat } 4 + 5}$
7. Teacher narrow Question Ratio	TNQR	$= \frac{\text{Cat } 4a}{\text{Cat } 4 + 5}$
8. Teacher Broad Question Ratio	TBOR	$= \frac{\text{Cat } 5b}{\text{Cat } 4 + 5}$
9. Instantaneous Teacher Question Ratio	TQR-89	$= \frac{\text{Sum of cells 8-4, 9-4}}{\text{Sum of cells 8-4, 8-5, 9-4, 9-5.}}$
10. Instantaneous Teacher Narrow Question Ratio	TNQR-89	$= \frac{\text{Sum of cells 8-4a, 9-4a}}{\text{Sum of cells 8-4, 8-5, 9-4, 9-5}}$

(Contd.)

Appendix 7 (Contd.)

11. Instantaneous Teacher Broad Question Ratio	TBR-69	= $\frac{\text{Sum of cells 8-4b, 9-4b}}{\text{Sum of cells 8-4, 8-5, 9-4, 9-5}}$
12. Pupil Initiation Ratio	PIR	= $\frac{\text{Cat 9}}{\text{Cat 8} + 9}$
13. Content Cross Ratio	CCR	= $\frac{\text{Cat 4} + 5}{N}$
14. Steady State Ratio	SSR	= $\frac{\text{Sum of Steady State Cells}}{N}$
15. Pupil Steady State Ratio	PSSR	= $\frac{\text{Sum of Cells 8-8, 9-9}}{\text{Cat 8} + 9}$
16. Teacher Steady State Ratio	TSSR	= $\frac{\text{Sum of cells 1-1, 2-2, 3-3, 4-4, 5-5, 6-6, 7-7}}{\text{Cat 1+2+3+4+5+6+7}}$

APPENDIX-B

VALUE SCORES

S. No.	A	B	C	X	Y	Z
1	31	45	23	39	59	43
2	41	47	40	37	36	39
3	40	40	30	30	44	40
4	37	37	43	42	36	45
5	40	48	34	46	35	37
6	31	30	25	44	51	51
7	44	39	36	40	40	41
8	30	59	24	41	41	37
9	41	53	20	37	44	36
10	39	45	28	45	51	32
11	51	42	23	53	49	28
12	41	40	30	42	34	53
13	39	35	31	54	36	45
14	42	43	33	39	38	50
15	46	46	15	41	44	46
16	30	36	27	40	43	56
17	30	52	38	40	44	28
18	46	40	28	48	45	33
19	41	41	32	32	41	53
20	47	36	40	41	40	36
21	45	35	39	49	37	35
22	37	33	23	54	48	45
23	47	36	40	41	40	36
24	48	39	23	47	44	40
25	47	40	37	36	56	24
26	40	36	45	39	43	40
27	46	37	32	39	39	47
28	42	27	29	41	42	39

(Contd.)

Appendix 8 (Contd.)

S.No.	A	B	C	X	Y	Z
29	47	40	37	36	56	24
30	25	47	40	41	38	49
31	43	42	25	39	46	44
32	34	56	24	42	43	41
33	43	40	32	49	39	44
34	45	41	31	45	47	36
35	50	46	30	38	47	29
36	41	45	34	41	38	41
37	40	30	30	48	48	44
38	41	47	28	38	35	51
39	41	29	31	52	44	49
40	44	46	29	39	38	44
41	42	29	24	52	49	42
42	39	45	40	36	47	33
43	34	56	24	42	43	41
44	47	51	14	51	47	30
45	47	41	24	30	47	41
46	42	48	26	40	43	41
47	45	47	30	42	29	47
48	60	40	19	46	44	31
49	47	41	24	30	47	41
50	40	39	42	39	36	44
51	41	38	40	45	40	36
52	48	56	21	40	39	36
53	39	32	29	40	42	58
54	41	45	34	41	38	41
55	45	41	21	44	25	67
56	43	41	35	36	42	43
57	27	40	47	37	47	42
58	45	37	31	42	37	48

(Contd.)

Appendix 8 (Contd.)

S.No.	A	B	C	X	Y	Z
59	40	33	23	47	34	63
60	44	49	26	32	54	25
61	46	31	23	54	44	42
62	42	36	40	42	37	43
63	49	30	37	41	43	40
64	31	41	38	47	37	46
65	31	41	38	47	37	46
66	43	41	36	41	42	37
67	51	53	22	43	42	29
68	47	35	24	40	42	52
69	39	41	32	45	41	42
70	46	36	20	44	46	40
71	45	39	25	47	46	38
72	49	40	28	46	42	35
73	41	28	48	44	36	42
74	46	36	29	31	53	45
75	49	39	29	34	39	50
76	47	52	29	40	43	38
77	39	37	34	44	33	53
78	39	46	36	39	48	32
79	39	44	29	35	47	36
80	42	38	33	34	42	52
81	45	33	36	31	44	51
82	38	39	26	36	49	50
83	49	35	25	40	46	42
84	42	31	34	38	55	40
85	41	42	32	34	42	49
86	48	43	39	40	38	38
87	30	39	34	40	40	57
88	32	55	32	39	45	37

(Contd.)

Appendix 8 (Contd.)

S.No.	A	B	C	X	Y	Z
89	42	40	38	44	33	43
90	37	47	39	47	34	36
91	41	36	36	40	47	40
92	43	24	40	53	39	41
93	50	38	26	55	44	27
94	49	31	39	46	31	44
95	45	35	32	44	50	34
96	47	48	20	43	48	34
97	49	41	28	47	43	32
98	45	45	37	42	37	34
99	41	40	39	44	40	36
100	40	39	38	46	40	37
101	36	42	42	42	40	38
102	37	41	37	39	39	47
103	40	39	39	46	40	36
104	45	44	23	59	35	34

APPENDIX-9

NEED SCORES

S.No.	ach	def	ord	exh	aut	aff	int	suc	dom	aba	nur	chg	end	bet	agg
1	9	13	8	7	15	21	15	24	12	18	22	15	7	8	16
2	10	19	11	11	15	19	17	14	11	23	26	6	11	6	11
3	8	16	10	16	19	9	16	8	14	19	14	17	15	13	16
4	16	6	19	17	15	18	13	19	12	14	17	10	6	12	16
5	11	11	10	13	16	14	23	13	19	19	15	5	13	15	13
6	7	10	14	9	20	12	12	16	14	24	23	3	11	18	17
7	17	17	16	13	10	11	16	19	8	18	18	9	18	7	13
8	17	13	17	10	13	12	17	8	12	24	17	17	19	13	11
9	16	10	19	13	16	15	22	11	17	14	18	12	8	15	4
10	12	11	5	16	20	16	14	17	19	9	18	6	9	25	13
11	8	17	14	15	18	19	21	15	9	27	20	7	16	6	10
12	7	7	16	9	20	11	12	16	13	24	23	7	12	16	17
13	5	9	10	16	15	18	11	15	15	8	20	21	14	18	15
14	12	8	12	12	19	11	12	16	12	24	23	4	13	15	17
15	11	17	19	11	11	13	19	15	11	25	21	6	17	1	13
16	13	14	13	5	17	17	20	13	8	25	20	13	17	6	9
17	11	9	11	12	19	13	9	13	14	23	20	11	15	13	18
18	15	11	19	13	16	15	23	11	17	14	16	12	8	15	5
19	12	14	10	10	17	20	11	16	13	14	21	20	19	1	12
20	11	8	13	8	14	19	16	16	13	24	21	11	22	3	11

(Contd.)

Appendix 9 (Contd.)

21	15	11	14	14	17	13	17	13	13	15	15	15	12	11	15
22	16	12	14	8	15	16	12	11	14	16	21	16	9	14	16
23	5	15	18	4	17	9	17	16	12	22	16	7	25	11	16
24	16	17	7	10	17	18	14	14	11	12	17	17	17	11	12
25	7	6	5	17	16	8	11	20	15	18	18	13	10	28	18
26	9	9	15	12	20	12	12	17	11	23	22	4	12	16	16
27	15	16	14	19	17	19	15	10	13	20	14	12	14	7	5
28	12	13	7	14	16	11	19	18	19	21	17	5	15	10	14
29	12	13	18	15	19	16	15	13	14	14	14	7	14	10	16
30	11	8	10	15	18	9	15	8	17	20	21	15	15	23	5
31	17	17	11	15	18	10	12	12	14	16	15	12	13	10	18
32	11	9	12	9	17	19	11	18	10	22	17	15	21	14	8
33	13	18	16	5	13	21	15	15	15	18	25	9	17	1	9
34	18	12	12	7	13	12	18	20	10	12	16	6	23	17	14
35	15	12	19	13	20	10	11	5	22	13	15	13	14	17	11
36	20	11	22	15	14	10	14	11	15	21	18	9	15	10	5
37	23	12	10	10	18	7	14	12	19	15	23	12	16	4	15
38	14	11	13	18	13	19	16	19	16	17	16	15	17	1	5
39	12	16	11	17	19	8	13	17	15	16	13	8	16	17	12
40	24	12	15	17	18	10	14	16	13	20	17	7	23	5	13
41	12	8	22	11	13	14	12	13	12	14	15	13	15	26	10
42	10	17	8	5	17	17	15	20	16	20	21	8	16	9	11

(Contd.)

Appendix 9 (Contd.)

43	17	13	16	12	10	11	18	15	11	24	25	11	22	1	4
44	15	12	11	15	15	11	15	9	17	20	21	17	18	0	14
45	12	11	14	7	18	18	19	11	16	20	22	4	23	7	8
46	7	18	10	10	10	10	14	17	11	12	16	22	15	12	10
47	9	13	6	8	23	12	16	16	17	21	17	14	16	12	12
48	14	15	15	14	14	13	13	17	13	16	15	14	14	8	15
49	13	11	16	9	15	15	14	12	20	15	19	13	19	4	15
50	17	12	18	11	11	13	16	15	14	15	12	12	15	15	14
51	14	13	14	11	20	17	15	13	11	13	19	14	16	11	9
52	15	10	10	8	13	10	18	15	9	19	17	10	24	15	17
53	11	14	12	15	17	14	11	12	15	17	17	17	13	16	9
54	14	16	17	13	20	14	19	14	12	14	13	11	13	13	8
55	7	12	15	10	21	10	14	15	14	23	22	5	12	13	17
56	11	15	17	13	13	11	12	12	11	17	23	17	17	7	14
57	14	15	13	9	17	14	13	12	15	24	15	12	10	9	18
58	22	8	4	14	14	14	12	13	20	12	13	19	21	11	13
59	14	15	10	12	16	15	18	11	7	24	21	9	20	5	13
60	15	12	21	14	13	15	10	10	11	18	17	13	19	4	12
61	9	4	14	13	11	15	18	10	15	15	18	13	18	16	18
62	14	8	14	16	19	17	12	20	15	13	20	4	8	2	14
63	15	20	17	9	11	15	11	17	15	11	24	9	18	5	13
64	16	13	18	21	16	12	6	11	14	19	17	7	19	5	16

(Contd.)

Appendix 9 (Contd.)

65	15	19	15	10	15	13	15	7	8	16	22	10	13	15	17
66	14	13	17	17	17	12	13	12	12	13	16	16	16	9	13
67	14	14	14	18	14	18	20	21	13	14	17	5	13	4	11
68	17	11	14	12	18	8	11	15	14	22	23	3	12	15	15
69	18	14	7	10	17	12	12	13	19	19	19	9	26	1	14
70	11	13	11	12	17	13	18	15	11	11	19	16	12	12	19
71	10	7	11	13	20	12	24	13	21	18	15	6	13	16	11
72	18	7	14	10	19	12	13	16	12	23	21	6	10	15	15
73	20	10	16	13	10	16	14	14	8	15	15	13	18	10	18
74	15	15	13	10	19	6	15	12	7	22	23	11	21	9	12
75	13	14	15	7	18	12	16	19	13	13	17	10	13	16	15
76	11	8	18	8	17	19	15	5	13	16	23	20	22	4	11
77	6	8	16	10	21	12	12	15	12	24	22	7	14	17	14
78	24	13	14	17	18	9	14	14	16	19	10	11	8	11	11
79	11	15	11	15	18	11	12	13	16	14	17	14	14	11	19
80	9	8	15	11	20	13	12	17	13	23	22	4	12	16	16
81	13	15	12	11	13	10	16	16	11	15	15	11	16	12	12
82	11	8	14	11	20	12	13	15	12	23	22	3	14	16	16
83	9	8	13	10	22	12	12	16	12	24	23	15	13	15	16
84	18	10	14	12	11	10	20	16	13	13	19	11	10	16	11
85	16	10	19	13	16	15	22	11	17	14	15	11	9	15	4
86	13	10	2	13	15	14	8	18	20	23	17	20	14	1	17

(Contd.)

Appendix 9 (Contd.)

87	12	8	13	12	19	10	13	16	13	24	23	4	11	15	17
88	18	12	22	11	19	16	14	15	11	14	15	13	17	1	12
89	10	10	13	12	15	15	16	29	16	19	22	6	9	15	12
90	18	14	12	15	12	12	16	14	12	13	14	15	15	13	13
91	15	13	10	9	16	13	15	10	9	25	23	10	18	13	16
92	7	8	12	14	18	10	14	9	10	20	21	14	16	12	16
93	15	13	15	11	9	13	16	15	17	18	22	4	17	9	16
94	11	17	19	11	11	13	19	15	11	25	21	6	17	1	13
95	6	8	12	12	18	12	14	17	13	24	23	5	13	14	17
96	12	8	13	12	19	10	13	16	13	24	23	4	11	15	17
97	19	9	12	9	19	11	14	15	11	22	22	5	14	16	15
98	13	11	12	17	16	16	9	21	9	17	22	9	15	9	14
99	14	9	16	11	17	6	10	19	13	23	23	6	11	14	16
100	16	15	17	12	16	12	14	15	18	13	15	12	9	9	16
101	18	19	9	10	16	17	12	11	11	22	13	7	11	10	11
102	11	19	16	7	14	13	11	25	11	21	17	13	14	7	10
103	17	17	16	13	10	11	16	19	7	18	18	9	18	7	13
104	11	13	24	14	12	19	13	18	13	20	16	10	15	10	2

APPENDIX-10

TEMPERAMENT SCORES

S.No.	A	V	I	D	E	S	R
1	3	11	10	11	11	10	8
2	7	7	8	10	9	7	15
3	6	3	13	14	6	10	16
4	8	9	9	7	4	10	8
5	11	9	4	14	9	10	11
6	7	10	7	13	7	9	11
7	10	10	9	10	10	10	10
8	12	9	12	10	6	13	14
9	11	5	9	11	9	10	14
10	9	7	9	9	8	11	11
11	9	15	10	9	11	12	11
12	10	9	9	10	7	10	16
13	13	9	14	12	9	12	17
14	6	7	11	8	6	8	9
15	5	4	10	10	9	6	9
16	8	7	13	12	8	13	12
17	12	13	11	11	6	9	16
18	8	12	9	8	3	11	11
19	8	17	14	12	8	13	16
20	10	13	10	6	10	9	13
21	11	12	12	11	10	16	17
22	8	5	10	8	12	12	6
23	8	9	13	13	5	11	11
24	12	12	16	11	7	9	6
25	12	11	18	14	6	16	18
26	11	14	8	13	6	15	14
27	6	6	11	11	4	13	10
28	7	12	11	6	8	6	12

(Contd.)

Appendix 10 (Contd.)

S.No.	A	V	I	D	E	S	R
29	7	4	8	7	10	10	13
30	13	8	8	9	6	9	9
31	10	7	12	21	6	14	15
32	11	8	8	9	9	11	0
33	7	12	8	12	8	7	9
34	9	9	11	12	7	11	11
35	8	6	11	9	11	10	13
36	8	8	9	10	10	12	9
37	8	4	13	14	7	10	16
38	10	11	6	12	11	8	12
39	13	11	13	11	0	9	11
40	10	8	8	7	5	7	12
41	12	0	12	8	9	9	12
42	10	8	11	10	7	10	0
43	7	16	11	11	7	14	15
44	10	9	10	10	8	12	12
45	10	10	12	11	6	10	11
46	8	11	15	13	4	11	18
47	12	12	11	15	10	9	13
48	7	10	13	15	10	9	13
49	10	6	13	11	11	13	9
50	9	12	12	11	8	13	7
51	6	8	16	13	8	10	10
52	15	10	10	9	5	8	11
53	8	9	10	9	6	13	8
54	5	4	10	9	9	6	9
55	12	3	12	12	11	11	10
56	10	10	12	11	6	10	11
57	12	17	14	13	11	13	16
58	13	9	9	13	9	11	11

(Contd.)

Appendix 10 (Contd.)

S.No.	A	V	I	D	E	S	R
59	8	2	7	7	5	10	10
60	15	5	9	15	9	10	12
61	8	12	15	10	11	10	13
62	11	10	13	10	11	15	10
63	10	8	8	7	5	7	12
64	7	6	11	12	9	12	11
65	7	6	10	9	5	11	13
66	10	11	11	14	9	9	11
67	8	7	12	11	11	12	15
68	10	4	10	13	10	12	11
69	10	10	10	10	9	11	9
70	10	9	11	7	5	11	9
71	1	3	6	10	10	9	10
72	9	3	11	12	8	10	9
73	10	2	8	14	9	9	14
74	11	10	13	8	12	13	18
75	4	14	8	11	10	14	9
76	7	13	14	9	11	12	10
77	11	2	12	11	10	9	10
78	6	9	8	7	4	7	12
79	8	1	6	8	11	6	5
80	9	5	4	9	9	11	10
81	7	2	13	6	6	9	12
82	5	7	7	9	11	9	11
83	10	0	3	6	9	3	10
84	10	2	9	9	10	6	14
85	6	14	12	9	8	10	15
86	8	10	12	10	8	9	9
87	11	11	15	11	10	14	10
88	10	8	13	12	9	9	16

(Contd.)

Appendix 10 (Contd.)

S.No.	A	V	I	D	E	S	R
89	10	10	13	14	9	12	10
90	11	12	13	15	10	12	14
91	10	12	10	9	8	11	12
92	8	8	6	9	9	10	8
93	11	11	12	15	8	12	14
94	9	11	10	12	10	11	12
95	10	11	8	8	7	15	17
96	9	11	9	9	7	10	11
97	3	7	8	10	10	6	8
98	8	12	15	10	8	11	12
99	8	9	10	11	11	9	13
100	8	5	1	9	4	4	9
101	10	9	8	8	4	6	10
102	11	3	11	11	9	11	9
103	7	9	9	8	7	7	14
104	10	0	12	9	8	16	13

APPENDIX-11

ACADEMIC CAREER SCORES

S.No.	Scores	S.No.	Scores	S.No.	Scores	S.No.	Scores
1	12	27	20	53	18	79	18
2	16	28	20	54	3	80	22
3	12	29	18	55	12	81	14
4	22	30	12	56	18	82	20
5	3	31	14	57	18	83	18
6	8	32	8	58	14	84	20
7	12	33	8	59	18	85	18
8	16	34	12	60	16	86	14
9	16	35	14	61	16	87	16
10	7	36	12	62	14	88	8
11	8	37	6	63	14	89	18
12	17	38	14	64	16	90	16
13	12	39	7	65	16	91	12
14	14	40	16	66	12	92	18
15	7	41	10	67	18	93	24
16	16	42	18	68	14	94	14
17	6	43	16	69	10	95	18
18	18	44	20	70	18	96	12
19	14	45	14	71	20	97	5
20	5	46	12	72	22	98	10
21	18	47	7	73	16	99	8
22	18	48	16	74	16	100	1
23	12	49	18	75	18	10	18
24	16	50	18	76	10	102	10
25	20	51	20	77	16	103	6
26	18	52	12	78	20	104	12

APPENDIX - 12

JOB ADJUSTMENT SCORES

S.No. Scores		S.No. Scores		S.No. Scores		S.No. Scores	
1	87	27	119	53	90	79	71
2	61	28	71	54	138	80	139
3	106	29	106	55	112	81	97
4	93	30	70	56	97	82	123
5	106	31	91	57	90	83	119
6	111	32	73	58	97	84	121
7	107	33	123	59	110	85	99
8	117	34	80	60	73	86	119
9	121	35	102	61	125	87	102
10	90	36	120	62	132	88	120
11	98	37	110	63	116	89	110
12	103	38	102	64	90	90	112
13	85	39	95	65	115	91	113
14	77	40	96	66	102	92	101
15	115	41	103	67	126	93	100
16	83	42	97	68	111	94	112
17	103	43	81	69	110	95	95
18	100	44	90	70	117	96	91
19	95	45	100	71	91	97	100
20	104	46	89	72	80	98	93
21	106	47	69	73	101	99	91
22	110	48	99	74	126	100	100
23	99	49	88	75	60	101	106
24	121	50	71	76	94	102	113
25	102	51	70	77	114	103	94
26	132	52	98	78	139	104	111